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BLUE JAY

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EDITORIAL

In my June editorial, I asked, "How is *Blue Jay* doing?" I was pleased to receive letters about this question from Saskatchewan, Manitoba, Alberta and Ontario. Here are a few of the responses:

"*Blue Jay* is a journal of natural history and conservation for Saskatchewan and adjacent regions. Its value lies not solely in serving members of the Saskatchewan Natural History Society (SNHS) as a source of enjoyment, entertainment, and education ... its value lies primarily in the accumulation of information. It should not aim to satisfy members. Members should feel good knowing that they ... are supporting a journal which is a source of information. Its value does not end when a member puts his copy down ... it sits in libraries where it is permanently available as a source of information. ... members get something out of it, varying with their interests, background, and experience; and those who contribute help stimulate and teach others. This is well and good, but it does not matter whether each and every member enjoys each and every article in each issue. That is a faulty premise, and I see great risk in this business of 'making *Blue Jay* a worthwhile journal for all Nature Saskatchewan members'." This excellent defense for the *Blue Jay* as a semi-scientific journal was written by a *Blue Jay* associate editor, Dr. Robert Nero of Winnipeg.

Robert goes on to state: "Getting 'scientists' to write for all *Blue Jay* 'subscribers' is somehow going out on a limb that will break off. ... As an informed and experienced member and reader of *Blue Jay* for several years, I have never tried to read everything that was in *Blue Jay*. I don't need to digest all the information about a technical article on moths, for example, to appreciate the long term value of that item. ... We need to remind folks that this is a function of the SNHS, to record what is sometimes technical, difficult to read and in some cases not meant to be read. You don't need the moth article ... you have it there in print to be used by those who are interested in moths, whether SNHS members, university professors (here or overseas), etc."

Scott Bricker of St. Albert, Alberta, made the following comments: "The magazine maintains a good balance between the scientific and the 'lay,' between bugs, animals, flowers and birds. As a 'birder,' I don't get upset with non-bird articles. These remind me that not everything is 'strictly for the birds.' As they say in Ireland, 'You're doin' just foin'."

Tony Lang of Toronto: "I think you have made the right decision to work at striking a balance between scientific and non-scientific articles. *Blue Jay* needs both. ... *Blue Jay* provides a place in the open literature to which people all over the continent look for information on the natural history of the northern Prairies. ... While *Blue Jay* has a scientific responsibility, there is a real need to ensure that the journal is still accessible and interesting to members who are new or are not avid field naturalists. Having non-scientific articles and letters alongside the scientific articles fulfils part of this need. ... Maybe the 'Editorial Information' section could explicitly state that the authors of all articles are encouraged to make their articles readable by non-specialists. They could also be assured that this will not detract from the scientific value of the articles. ... taking a strong hand in the editing of already written articles would be time consuming. It might also deter submission of scientific articles because of the additional ... time that would be required before such articles are published."

The struggle to find a good balance will continue. My associate editors and I sincerely thank all who took time to send comments.

TREASURES ON THE SHELVES

TIM T. TOKARYK, Royal Saskatchewan Museum, Wascana Park, Regina, Saskatchewan. S4P 3V7

One of my biggest passions is visiting book stores. The dusty shelves, books stacked any way imaginable, titles that few people find useful, but someone, sometime, will. I get less of a thrill in the new book stores not because the current titles are unexciting but because the cost of new books makes my wallet scream in fright and anger. No, it's the used — more specifically the antiquarian — book stores that grab my interest because, for me, the only place to search out topics related to evolution is on the shelves of antiquarian book stores.

As I enter the shop I'm initially drawn to the science section. Evolution has many avenues of thought — geology, biology, paleontology. Yet even after I have gorged myself in this small area of the shop I look around and see more subjects in the distance, more volumes with the thin veil of dust that temporarily entombs them. I walk further on.

The law section has some interest to me. If you ever talk to a lawyer who happens to be somewhat familiar with the history of his or her profession mention the name Clarence Darrow. In a biography of Darrow (1857-1938), Irving Stone summarized his life "as a lawyer who attacks boldly and loudly, crosses swords even with the judge, spilling his sarcasm over the courtroom ... defending causes and beliefs so unpopular they shock many people."[17] Darrow is remembered as saying, "I may hate the sin but never the sinner."[17] He reached national fame a few times but none so prominently as when he defended John T. Scopes. Scopes was a school teacher in Tennessee who volunteered to test a little known point in state law where it prohibited "the teaching of the Evolution Theory in all Universities, Normals, and all other public schools of Tennessee which are supported whole or in part by the public school funds of the state ... [in contradiction to] any theory that denies the story of the Divine Creation of man as taught in the Bible."[17] Darrow's legal opponent was William Jennings Bryan, three-time presidential candidate and fundamentalist; together Bryan and Darrow made this trial a national event. In the end Scopes was found guilty (there was never any doubt that he had violated the letter of the law but the defence wanted to prove that the law infringed on free thought, hoping later to take the case to the Supreme Court, but were never able to). Scopes was given a modest fine, but not before Darrow showed how illogical the concept of Divine Creation is in a science classroom if you go by the letter of Genesis. One can find a sufficient review of the above case by Ray Ginger in *Six Days or Forever?*.[7]

Moving to another aisle in the book

store and taking temporary leave of nonfiction, one may find a play by Jerome Lawrence and Robert Lee called *Inherit the Wind.*[10] Here is a theatrical production of the Scopes trial. Later Spencer Tracy and Gene Kelly headlined a powerful and still captivating movie version of the same work.

There is no doubt that the theme of evolution has touched English literature. William Leatherdale reviewed this idea and concluded that no other revolution in modern science has affected literature as much as Darwinian evolution.[11] Its fundamental message seeps into almost everything. Authors like Bernard Shaw in *Back to Methuselah*, first published in 1921, and more recently John Fowles' *The French Lieutenant's Woman*, first printed in 1969, used the Darwinian thinking as a tool for social reformation in the 19th century.[5,15] Tennyson and Hardy are other noteworthy authors cited by Leatherdale.

One name not mentioned (and I could never really figure out why) is Sir Arthur Conan Doyle or his famous fictional consulting detective Sherlock Holmes, since the process of deduction and the securing of facts were fundamental to Holmes and Darwin. I asked the question about Doyle to a colleague of mine, William Sarjeant of the University of Saskatchewan. Amongst his many talents, Sarjeant is also a Holmesian scholar and pointed out a passage in one of Doyle's tales. When Watson recounts his first days with Holmes in *The Study in Scarlet*, Holmes says, "It is of the highest importance, ... not to have useless facts elbowing out the useful ones."[4] I guess if it wasn't directly related to a case it becomes extraneous. However, one biographer of Doyle, Hesketh Pearson, suggests that the agnostism that erupted in the latter part of the 19th century, due somewhat to the writings of Huxley and Darwin, did help shape Doyle's early years.[12] [Though Holmes makes no reference to Darwin another scholar of biology, Baron Georges Cuvier, is mentioned in "The Five Orange Pips." One of the founders of comparative anatomy and a devout anti-evolutionist, Cuvier could reconstruct an extinct animal based on its fragmentary remains in the rock. He was able to achieve this not by some magical power but by his own accumulated knowledge of the form and function of extinct and extant animals. According to Holmes, "Cuvier could correctly describe a whole animal by the contemplation of a single bone, so the observer who has thoroughly understood one link in a series of incidents, should be able to accurately state all the other ones, both before and after."[4]]

We could even extend our evolutionary thematics to art (something I know as much about as fiction which isn't really saying much). Martin Rudwick's *Scenes from Deep Time* is a compilation of early representations of the prehistoric world, most of which were originally plates in books going back to the 18th century.[13] The combination of early interpretations, primitive printing techniques, and a style of illustrating that is almost forgotten, all reflect our ontogenetic knowledge.

Charles Knight was also an artist of some repute. Most of his work was originally intended not as a supplement to the text in a book but for a bigger spectrum — the museum gallery (you can see some of his work later reproduced in many paleo-related books). The earlier part of this century saw a boom not only in fossil collecting but in displaying the fossils, which in turn required appropriate art work to bring home the reality of these Phanerozoic behemoths. A leader in this field was the American Museum of Natural History in New York. Knight soon became the foremost illustrator of his time, producing murals for the museum in New York as well as the Chicago Field Museum and the Los Angeles County Museum. With all the revisionism that has occurred in museum galleries over the past few decades I am not certain if most of Knight's work can be seen by the public. Fortunately, in 1982, Sylvia Czerka and Donald Glut compiled examples of Knights work in book form, *Dinosaurs, Mammoths and Cavemen.*[2] The images may be familiar.

Often tucked away in some small nook in the book shop one will find the philosophy section. If you are lucky you may find a book or two that will have some brief discussion of science and biology. Though there has never been a shortage of philosophers, most attempts at systematic examination of science and its more profound meanings usually begin and end with physics or mathematics. Physicist and Einstein biographer Philipp Frank in his *Philosophy of Science* paid only nominal attention to Darwinian evolution amongst its nearly 400 pages.[6] Thomas Kuhn's *The Structure of Scientific Revolutions*, considered by many to be a foundational philosophical treatise on science, has an almost equal attention span for evolution.[9] Yet, if you look closely at 19th century writing, specifically Darwin, Lyell, and Huxley you are sure to find something that appeals to the sector of the brain that mulls over grander thoughts. Contemporary philosophers like Michael Ruse have upgraded biology and specifically evolution to an equal level of philosophical standing with the other, more aged sciences with *Darwinian Paradigms* and *The Darwinian Revolution.*[14,15]

Religion is a favourite haunt of mine in the antiquarian book store. In general, I am interested in how science has melded or clashed with religion, primarily the Judaeo-Christian beliefs, and specifically how evolutionary biology has added to the disruption of religious complacency, most notably in the 19th century. There are many titles, everyone seems to have some point of view. The first intellectual tsunami that evolution created was against the fracturing bedrock of religion. Take for instance a little book by J.B. Dimbleby titled *The Date of Creation*, published in 1902.[3] Dimbleby adamantly defends, on rather a lame scientific basis, the six literal days of creation in Genesis and has little praise for the work of nonconformists like Darwin and others. In reading this book it is obvious that its author has little comprehension of the basic tenets of science and its methodology (still symptomatic of today's "scientific creationist"). But even in the heyday of evolutionary discussions and debates not all religious thinkers were as acidic in their examinations. I recently found a glowing review of Darwin in a book written by Rev. Thomas Guard in his *Lectures and Addresses* published in 1883.[8] Here Darwin is compared to the greatness of Emerson and Longfellow (all of whom died in the same year, 1882). Darwin, it is said "loved truth; no doubt of this. Any price would he pay for a fact. He valued them, for he knew how rare they were."[8]

I usually walk by the political section knowing full well that evolution has been consumed and regurgitated in some unrecognizable form to support one ideology or another. The same passing glance covers the psychology section even though I know Freud mumbled some words on evolution.

History is a section I used to pass by without much hesitation, but lately I have even ventured into this section of the book store. At a time when church and state were more comfortable bedfellows than today the concept of evolution had a disturbing impact on 19th century society. This can be seen, for example, within a few chapters of E.L. Woodward's *The Age of Reform, 1815-1870.*[18]

As you can see, if given a general topic, in this case evolution, one can find the obvious titles, but with a little searching you can also discover little gems that link your desired theme throughout the store (or library). This is because no antiquarian book store has the same classification scheme. Books come and go too quickly to follow the library system. Most of these titles, though commonly linked by one theme, can be intermixed almost anywhere in a book shop. Books on creationism can be found in either the science, law, or religion sections; human evolution can be found in the anthropology/archaeology section as well as in general science.

Tired, I am now literarily ballooned. Eyes and brain full of titles I searched, bending high and low between the cramped aisles. I may have come to the store with a specific title or subject to search but leave with unexpected treasures. And, expectation soon grows knowing that many of the books I've purchased will be replaced with new, old books. The search will begin again, soon.

For me, these regular treks broaden my perception of the work I do — the biggest threat to myself is becoming too narrow of scope, specializing in one obscure area of our earth's past inhabitants. I am humble in the presence of almost any published volume, whatever the idea or message the pages convey because the authors have extended an idea from the safe solitude of an individuals mind to the critiques or applause of the intended readers. The above titles are but a few examples of such works.

Postscript For one who usually doesn't like surprises the following event I endured with mixed emotions. Several years ago I came across the title of an Agatha Christie novel *Ordeal by Innocence*, about a Canadian palaeontologist, Dr. Calgary, who on a stopover in England returning from collecting trip from the Antarctic, winds up using his deductive skills as a scientist to solve a murder in which he has become embroiled.[1] Searching high and low I couldn't find a copy of it. I didn't care what condition, edition, paperback or hard cover, I just wanted a copy. Then I discovered a first edition, and though I paid a pretty penny for it I was happy my search was over. Not more than a month later I was browsing through some shops in a small mall in Edmonton, killing time before the banks opened (so I could purchase books) and strolled into one of those commercial used book shops, you know, the ones that have the bulk of their stock in Harlequin Romances. At the far end of the shop, facing me at eye level was a relatively recent paperback version of *Ordeal by Innocence.* I am sure, in some alternate dimension, the tattered book had a smirking smile because it knew I had already dented my wallet by purchasing an original edition. Nevertheless, I bought it for the grand sum of $1.25 and walked away feeling somewhat victorious.

1. CHRISTIE, A. 1958. Ordeal by innocence. Collins Clear-Type Press, London. 256 pp.
2. CZERKAS, S.M. AND D.F. GLUT. Dinosaurs, mammoths, and cavemen. E.P. Dutton, New York. 120 pp.
3. DIMBLEBY, J.B. 1902. The date of creation. E. Nister, London. 230 pp.
4. DOYLE, A.C. 1984. The illustrated Sherlock Holmes treasury. Chatham River Press, New York. 808 pp.
5. FOWLES, J. 1981. The French lieutenant's woman. The New American Library of Canada, Scarborough. 366 pp.
6. FRANK, P. 1957. Philosophy of science. Prentice Hall, Englewood Cliffs, New Jersey. 394 pp.
7. GINGER, R. 1974. Six days or forever? Oxford Univ. Press, New York. 258 pp.
8. GUARD, T. 1883. Lectures and addresses. Phillips and Hunt, New York, 370 pp.
9. KUHN, T. 1970. The structure of scientific revolutions (second ed.). University of Chicago Press, Chicago. 210 pp.
10. LAWRENCE, J. and R.E. LEE. 1985. Inherit the wind. Bantam Books, Toronto. 115 pp.
11. LEATHERDALE, W. 1983. The influence of Darwinism on English literature and literary ideas. Pp. 1-26 *in*: The wider domain of evolutionary thought, D. Oldroyd and I. Langham, eds. D. Reidel Publishing Company.
12. PEARSON, H. 1946. Conan Doyle. Guild Books, London. 207 pp.
13. RUDWICK, M.J.S. 1992. Scenes from deep time. Univ. of Chicago Press, Chicago. 280 pp.
14. RUSE, M. 1979. The Darwinian revolution. Univ. of Chicago Press, Chicago. 320 pp.
15. —— 1989. The Darwinian paradigm. Routledge, New York. 299 pp.
16. SHAW, G.B. 1987. Back to Methuselah. Penguin Books, New York. 319 pp.
17. STONE, I. 1989. Clarence Darrow for the defense. Doubleday, Toronto. 570 pp.
18. WOODWARD, E.L. 1938. The age of reform 1815-1870. Oxford Univ. Press, New York. 656 pp.

Wind sculpted sand dunes in the Great Sand Hills south of Sceptre, SK.

Daisy D. Meyers

PLANT DISCOVERIES IN SASKATCHEWAN, 1988-92, FEATURING SERPENT SPURGE AND FLUFFWEED

JOHN H. HUDSON, 103 Richmond Crescent, Saskatoon,
Saskatchewan. S7K 1A9

The last time I had an article in the Blue Jay about plant discoveries by me in Saskatchewan was in 1988, reporting on Foxtail Muhly (*Muhlenbergia andina*) having been found at Emma Lake, and a new record for the province.[11] In the four years following years, I have found two plants new to Saskatchewan this comes to 0.5 novelty per year. This is a drop from the 1970s when I averaged 1.7 plants new to Saskatchewan per year — the law of diminishing returns is seen in action.

New to Saskatchewan is *Euphorbia serpens* H.B.K., which Booth and Wright call Serpent Spurge.[4] This small annual, flat on the ground, looks just like the common weedy annual spurges of gardens, dry roadsides, and railroad embankments, except that the small (4-5 mm diameter) leaves are almost round, rather than elliptical or oblong. Collection data are: #5028, Lemsford Ferry, 15 August 1991, on steep bare butte of proglacial silts, L.S.D. 5 in 2-24-23 W. 3rd; #5097, Lancer Ferry, 3 September 1992, dry bare eroded slope of clay till, south facing, L.S.D. 2 in 21-23-21 W. 3rd.

Here we have two findings of a plant on the buttes along the South Saskatchewan River, and there is no reason why it should not be found elsewhere in the stretch between Empress and Lancer Ferry. In this stretch the river breaks consist of buttes seemingly composed mainly of stone-free and unfossiferous buff silt, with the occasional layer interbedded of stone-bearing and rather clayeyer till, (such as that from which #5097 came) — all clearly Pleistocene in age. The geologic substrate of a rare plant is worth some inquiry. I had the feeling that I had read or heard somewhere that these thick silts were proglacial silts that had been deposited in lakes in front of the advancing continental glacier, but could find no reference which said just that.

What I did find was the report of P.P. David, a study of the glacial geology of the Prelate map sheet 72 K, which includes Lancer Ferry.[5] In the discussion of sections along the South Saskatchewan River, he reports having found in these buttes "stratified drift," and presents diagrams and a photograph of the river cutbanks (at the former Prelate Ferry), by which it appears that layers of this silty stratified drift and of stone-bearing till succeed one another for several cycles in this section. He says, "All the stratified drift units in the Prelate area were deposited mainly during the retreat of older ice sheets and during the readvance of the younger ice sheets."[5] He does not seem to be curious why there is so much stratified drift along the river breaks but relatively little away from the river, as his boreholes testify. A suggested explanation is somewhat as follows: as the present river is in a large west to east preglacial river valley from Empress to Lancer Ferry, then every time the ice sheet advanced (as well as receded) a quantity of stratified drift would be deposited from east-flowing water in the valley. Lying in a topographic low at right angles to ice advance, not all this stratified drift would be incorporated into the till when next the ice sheet overrode the valley. This was repeated several times. And nowadays in the outcrops, as pointed out by David, the till is tougher and more resistant to erosion and hence forms ledges, while the proglacial silts tend to weather down over the surface of the cutbank. Thus, to the casual observer the butte appears to consist mainly of buff silt with the occasional prominent ledge of till.

Serpent Spurge is widely distributed through the central United States from central and southeastern Montana down to Texas.[3,6,8] In Canada, Scoggan gives old reports (1881-1901) for extreme southwestern Ontario, adding "? extinct or ? introduced."[14] It is not mentioned in lists by Argus of the rare plants of Ontario.[1,2]

The other novelty is Fluffweed (*Filago arvensis* L.), which I found in the valley of Caton Creek northwest of Ravenscrag in 1991. Collection data are: #5040, 28 August 1991, dry sandy bare eroded slope at junction of side ravine with Caton Creek, L.S.D. 13 in 21-7-24 W. 3rd; #5041, 28 August 1991, abundant at foot on north bank of side ravine, L.S.D. 16 in 20-7-24 W. 3rd. Number 5041 had flowered early in the season and when collected was mostly dead from crowding, while #5040 was scattered uncrowded plants flowering all summer and still living and growing. I was not sure the two collections were the same plant till I got them home. In overall appearance, Fluffweed looks much like the Marsh Cudweeds (*Gnaphalium*), but is strict and erect rather than sprawling. As in the latter, white wooly hairs cover the leaves and the small rayless composite heads. For its range outside Saskatchewan one may quote Hitchcock: "A European weed, recently collected several times in s.e. B.C. and adj. Wash., Ida., and Mont.; becoming common on overgrazed ranges, and to be expected to spread."[9] And it is doing so.

Not quite a first report is Fetid Marigold (*Dyssodia papposa* (Vent.) Hitchc.), an annual composite which looks like the cultivated marigolds of genus *Tagetes* seen through the wrong end of a telescope — even the smell of the crushed leaves is similar. These leaves, however, are twice or thrice pinnatifid into fine divisions, instead of only once. This plant was found as #5086, 27 August 1992, a weed on gravel shoulders of #11 Highway 2.6 mi north of Bladworth, L.S.D. 15 in 14-28-2 W. 3rd. But it is not a first finding; according to Dr. G.F. Ledingham in a letter of 12 November 1990, Myron Kopec collected *Dyssodia* in 1990 on #1 Highway 2 mi. west (of Regina). The plant, native of North America, has a wide distribution through the central U.S. south of Saskatchewan; *Flora of the Great Plains* says "s. Ont., w. N.Y. to MT and AZ, s. to central Mex."[7] According to Scoggan the southern Ontario report was based on a 19th century report from Fort

Erie as a railroad weed; he adds "evidently not established."[14]

Three other range extensions are worth noting here:

1) Downingia (*Downingia laeta* Greene), was collected as #5019, 14 August 1991, in a field pothole (cultivated slough bottom), soil glacial lake clay, L.S.D. 16 in 16-30-14 W. 3rd, near Rosetown. I had reported this earlier from a field pothole south of Leader, along with a summary of earlier findings by Macoun.[10] The trouble with these collections of rare plants from field potholes (low spots in tilled fields which chanced not to be seeded in spring because of wetness) is that the odds are against someone repeating the collection in some later year, at least in that particular slough. The field may be in summerfallow; or there may not have been enough snow for significant spring run-off, in which case the surface occupant will put it in crop. The only reason that there were sloughs in that area worth examining for mud annuals was the heavy rains of May-June 1991 — for about two decades we haven't had enough snowfall in the farmed part of Saskatchewan for major spring run-off. One can see that these mud annuals would undergo rigorous natural selection making for lengthy seed viability.

2) Cushion Everlasting (*Antennaria dimorpha* (Nutt.) T. & G.) was collected as #5044, 18 May 1992, on low spots in dry sandy prairie on L.S.D. 4 in 14-32-6 W. 3rd. This location is east of Round Prairie cemetery which lies at the south end of the Moose Woods flats along Highway #219. This plant is reported by Maher from Altawan and Climax to Val Marie; their map shows five dots, all on the High Plains south of the Cypress Hills.[13] Thus this Round Prairie collection is 225 miles out of range, but the surface was not at all disturbed other than by grazing.

3) Dwarf Fleabane (*Erigeron radicatus* Hook.) is mentioned by Maher from Cypress Hills, Simmie, and Wood Mountain.[13] The Simmie record is mine, the other two are Macoun's. Scoggan also cites a Macoun collection in 1895 from Old Wives Creek (now Wood River) which from Macoun's account of this trip must have been taken along Lynthorpe Creek — the terrain along modern Wood River exhbits none of the bedrock outcrops to which this plant is confined.[12,14]

This smallest of the fleabanes may be recognized by being essentially acaulescent with no stem leaf or only a small one; it is also glabrous or nearly so, thus being yellow-green in distinction to the related species Tufted Fleabane (*E. caespitosus*) which is ashy-pubescent, and Plains Fleabane (*E. pumilus*) which is villous with long white hairs. All three species have white ligules, only rarely feebly pinkish.

There are three collections of *E. radicatus* to be reported: #4775, 12 May 1988, on eroded sandy slope, lowest part of Whitemud formation, Pinto Butte near former Wideview P. O., L.S.D. 11 in 21-2-9 W. 3rd; #4778, 26 May 1988, steep windy northwest slope of cobbly knoll, west of Ravenscrag in L.S.D. 12 in 20-6-24 W. 3rd; #4854, 19 June 1989 on quartzite cobble flats and juniper-covered wash slopes around Whitemud outcrops, southeast of Aquadell in L.S.D. 1 in 16-20-6 W. 3rd. Geologically #4778 was growing where the bedrock was Cypress Hills formation, but #4775 and #4854 came from or just by outcrops of the Whitemud formation. I have sight records also of *E. radicatus*: 1) from L.S.D. 13 in 35-5-20 W. 3rd (on the Whitemud River plateau southeast of Eastend) on 23 May 1988; and 2) from SE 1/4 8-7-28 W. 3rd (valley of Adams Creek east of Fort Walsh) on 3 June 1988. Both populations were growing among the cobble-stones lapping over the edges of a Whitemud outcrop.

Duplicates of all numbered collections have been distributed to the herbaria of the University of Saskatchewan, the University of Regina, and the National Museum of Canada.

1. ARGUS, G.W., and D.J. WHITE. 1977. The rare vascular plants of Ontario. Syllogeus #14, National Museums of Canada, Ottawa.
2. ARGUS, G.W. et al. Atlas of the rare vascular plants of Ontario. National Museum of Natural Sciences, Ottawa, 1982-1987.
3. Atlas of the flora of the Great Plains. 1977. Iowa State Univ. Press, Ames.
4. BOOTH, W.E., and J.C. WRIGHT. 1966. Flora of Montana, Part II. Montana State Univ., Bozeman.
5. DAVID, P.P. 1964. Surficial geology and groundwater resources of the Prelate area (72K) Saskatchewan. Ph.D. Thesis, McGill Univ., Montreal.
6. DORN, R.D. 1984. Vascular plants of Montana. Mountain West Publishing, Cheyenne, WY.
7. Flora of the Great Plains. 1986. Univ. Press of Kansas, Lawrence, KS.
8. FERNALD, M.L. 1950. Gray's manual of botany, (8th ed.) American Book, New York.
9. HITCHCOCK, C.S., et al. 1955. Vascular plants of the Pacific Northwest, Vol. 5. Univ. of Washington Press, Seattle, 1955. Vol. 5 is attributed to A. C. Cronquist alone.
10. HUDSON, J.H. 1980. Plant finds from Saskatchewan in 1978 and 1979 — mostly from the southwest. *Blue Jay* 38:141-145.
11. ——. 1988. Foxtail Muhly new to Saskatchewan, Rigid Sedge reaffirmed, additional range extensions. *Blue Jay* 46:71-74.
12. MACOUN, J. 1985. Geological Survey of Canada annual report, new series, Vol. VIII, Report A, pp. 141A-148A.
13. MAHER, R.V., G.W. Argus, V.L. Harms, and J.H. Hudson. 1979. The rare vascular plants of Saskatchewan. Syllogeus #20. National Museums of Canada, Ottawa.
14. SCOGGAN, H.J. 1979. The flora of Canada. National Museums of Canada, Ottawa.

Birders: An overlapping term with “bird watchers,” who observe the birds' behaviour. “Birders” have a special interest in adding to their lists of species sighted. In Britain, they are known as “twitchers” — a term they dislike — and there are currently three paging services that rent beepers to alert them when a rare bird visits the British Isles. *Bird-watching. The Globe and Mail, 8 March 1994.*

INSECTS

MORE ABOUT BUTTERFLY BOOKS AND A MAGAZINE

BERNIE GOLLOP, 2202 York Avenue, Saskatoon, Saskatchewan. S7J 1J1

This article reviews five regional identification guides not included in my June 1989 synopsis in *Blue Jay*, a caterpillar guide and a magazine.[2] It also compares the species coverage for each of the prairie provinces in eight major field guides. But first, a book about names.

THE COMMON NAMES OF NORTH AMERICAN BUTTERFLIES. J.Y. Miller. 1992. Smithsonian Institution, Washington, DC. 177 pp. (155 x 230 mm) $20 US.

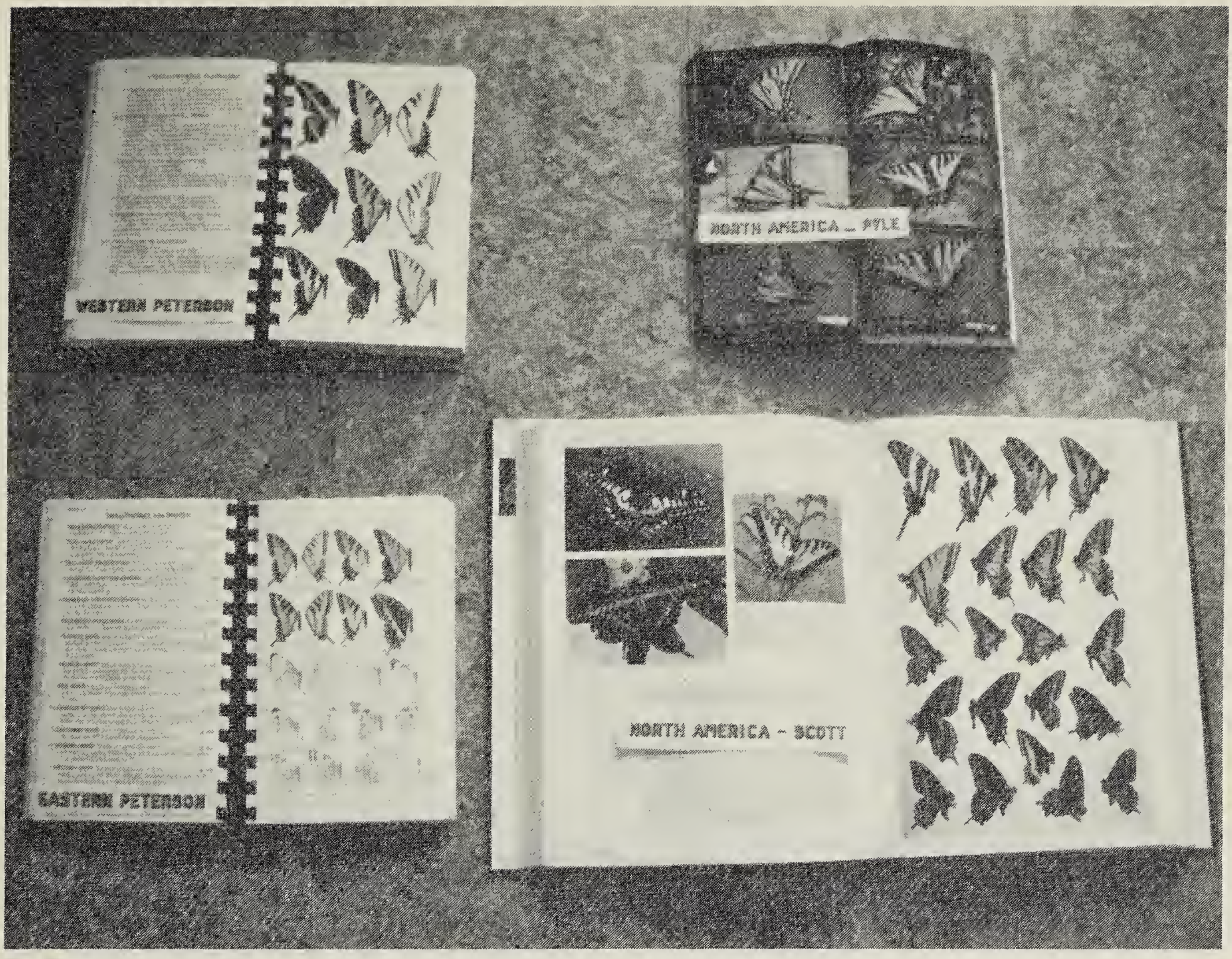
One curse of the insect world is the variety of names, both scientific and English (common), for one animal. For instance, Arctic Blue appears in all eight of the guides in the tables below but under six common names and five scientific names. So, to compare a species from one guide to another, you may have to check both common and scientific name. The sequence of butterfly groups may also change from book to book, making it difficult to learn where to look for a species.

This volume was the first step toward standardizing English butterfly names. For each species the most frequently published name is proposed as *the* common name. Beneath it are listed many of the alternatives (with scientific names) used over the years. Each synonym gives the book it was taken from so that the reader knows what name to look up in each title. (None of the prairie province guides were included.) To facilitate finding a particular butterfly by any other name, there is a 58-page index.

(The second step was taken by the newly formed North American Butterfly Association [NABA] which looked at Miller's list and came up with more appropriate names for some species. Their efforts have been published in *American Butterflies* [see below] and may soon appear as a separate checklist for North America.[6] Hopefully this list will receive as widespread acceptance and use as the American Ornithologists' Union's bird names.)

BUTTERFLIES OF ALBERTA. John Acorn. 1993. Lone Pine, Edmonton, Alberta. 143 pp. Colour photos, black-and-white sketches. (140 x 215 mm) $17 Cdn.

This is an attractive, softcover book. Its introduction includes sections on butterfly habitats and seasons, butterflies vs. moths, butterfly life cycles, enemies and behaviour, and enjoying butterflies — watching, gardening for and photographing. It concludes with a glossary, an index and a checklist. The major section on species makes



North American butterfly identification guides. Clockwise from upper left: Tilson's Western Peterson, Pyle's North American, Scott's North American, Opler's Eastern Peterson. *B.J. Gollop*

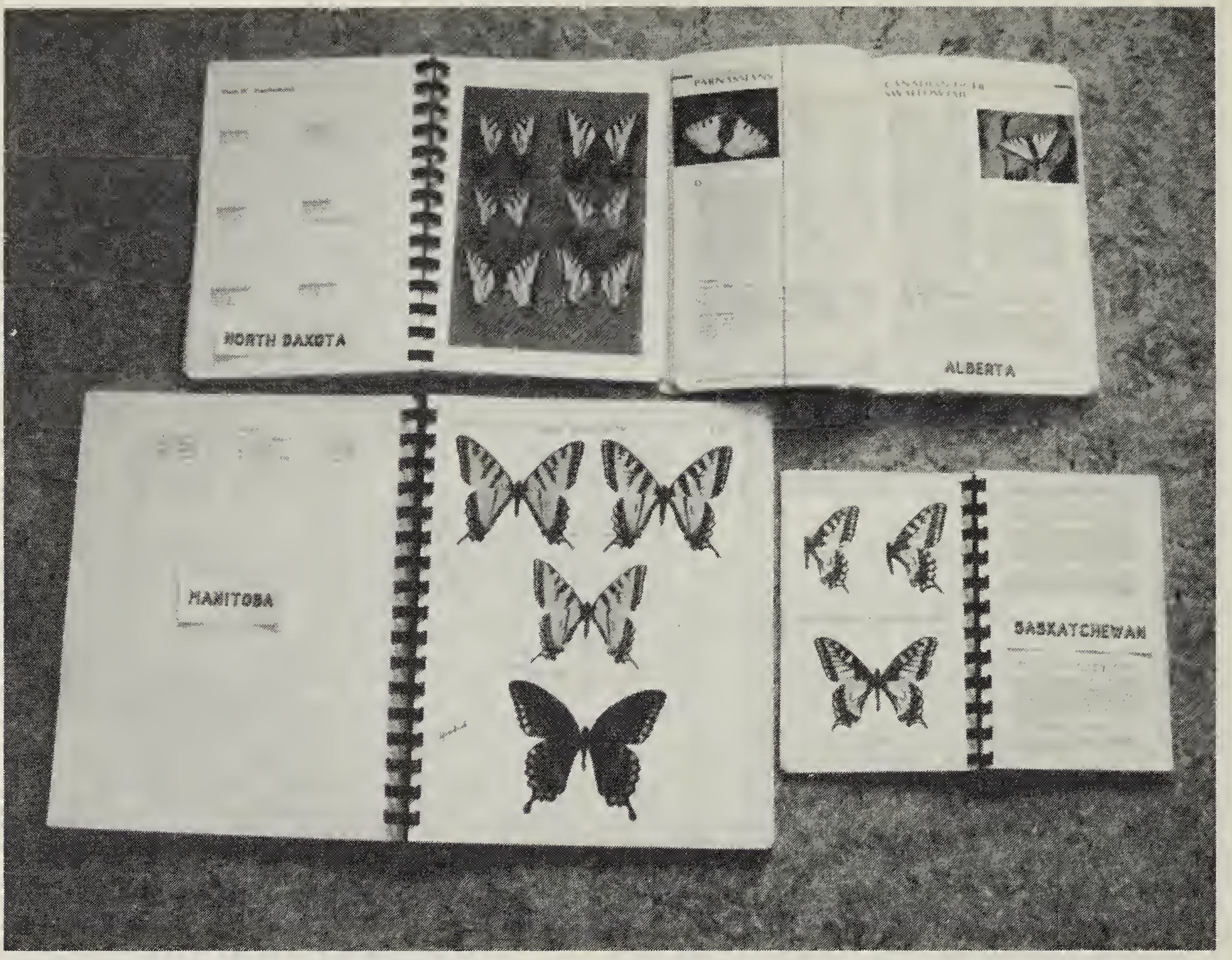
interesting reading and presents a range map for each butterfly. Included are caterpillar and adult food plants.

There are a few problems. For instance: how many species are found in Alberta? "[S]ome 156," according to the introduction. However, the checklist gives 162 species. The text indicates that two of these (Pahaska Skipper and Northern Pearly Eye) have not yet been found and I could not locate the other two (Dun Skipper and Dog Face) elsewhere in the book. This volume would indicate that there are 158 species found in Alberta.

Unfortunately, this guide fails to illustrate a significant portion of Alberta's butterflies. Six species are not described and 20% are treated with text alone, often inadequately. Furthermore, an illustration, whether of a living butterfly or a sketch, usually displays only one surface of one sex. Two photos are not identified — Roadside Skipper (p. 42) and White Admiral (p. 109). On p. 98, Sagebrush Checkerspot is named, apparently meaning Acastus Checkerspot.

There is a map for every species (except Edith's Copper) but the maps are so small — 15 mm high — and lack landmarks, such as Edmonton, Calgary, or any river systems, that their usefulness is significantly reduced.

Because scientific names are a necessary evil, it would have been more convenient if they had appeared in the main text when



Provincial/state butterfly identification guides. Clockwise from upper left: Royer's North Dakota, Acorn's Alberta, Hooper's Saskatchewan, Klassen's Manitoba. *B.J. Gollop*

species are first discussed, rather than in the checklist.

The strengths of *Butterflies of Alberta* are that it lists the species found, tells where and when to find them, and gives hints on plants for butterfly gardeners.

A FIELD GUIDE TO EASTERN BUTTERFLIES (Peterson Field Guide Series). P.A. Opler and Vichai Malikul. 1992. Houghton Mifflin, Boston. 396 pp. plus 48 colour plates. (114 x 182 mm) $24 Cdn.

This is not a revision of Peterson's 40-year-old eastern butterfly book.[5] It is a completely new guide — fully illustrated in colour with *paintings*. It covers "all species documented in the east" — east of the 100th Meridian (through Brandon, MB), including practically all of Manitoba's butterflies, 85% of Saskatchewan's and 73% of Alberta's.

There are sections on life history; watching, photographing, collecting; gardening; conservation; habitats; glossary; checklist; directory of butterfly societies; and index to host and nectar plants. There are also colour *photos* of 9 butterfly flowers, 18 larvae, 9 chrysalids and 68 live butterflies.

Both upper and lower surfaces (half butterflies) of one sex are usually shown and each is identified by name on the plate (unlike the Western Peterson, where images are numbered). These illustrations are not enough in cases where male and female are different. All species on a plate are to the same scale. Typical

Table 1. PERCENTAGE OF PROVINCIAL SPECIES TREATED IN EIGHT BUTTERFLY IDENTIFICATION GUIDES

Sequence: Total % treated (% of provincial species in colour/black-and-white/adequate text only)*

Butterflies of:	Alberta	Saskatchewan	Manitoba	Images/species
No. species:**	159	151	144	usual/range
GUIDE	%	%	%	Number
North America/ Scott	100 (99/1/–)	100 (99/1/–)	100 (99/1/–)	3-4/1-14
North America/ Pyle	99 (94/4/2)	100 (95/3/2)	100 (97/4/–)	2-1/1-5
Western Peterson/Tilden	97 (63/34/–)	95 (58/37/–)	92 (63/29/–)	2-1/1-13
Eastern Peterson/Opler	73 (70/–/3)	85 (82/–/3)	97 (96/–/1)	2/1-5
Alberta/ Acorn	94 (51/23/20)	68 (44/14/10)	79 (50/17/13)	1/1-4
Saskatchewan/ Hooper	73 (9/64/1)	97 (11/81/5)	77 (10/66/1)	3-2/1-4
Manitoba/ Klassen	66 (66/–/–)	78 (78/–/–)	99 (99/–/–)	3-4/1-10
North Dakota/ Royer	59 (57/1/–)	73 (72/1/–)	72 (71/1/–)	3/1-16

* Total does not always equal three subtotals because of rounding off.

** Through 1993 from provincial publications, NABA listing and additions to provincial faunas.

of the Peterson series, arrows point out diagnostic field marks and the facing text enlarges them. These features are most useful.

BUTTERFLIES OF NORTH DAKOTA — AN ATLAS AND GUIDE. R.A. Royer. 1988. Minot State University. Minot, ND. 193 pp. 1 black-and-white and 12 colour plates (145 x 203 mm) $20 ± US.

The 142 species of North Dakota butterflies are illustrated by coloured photos. The pictures are excellent, if small. Two plates each have more than 50 images of pinned specimens. There are 1 to 16 pictures per species, with an average of 3. There is a map for each species (in a separate, paper-wasting section) with distribution designated by county. A most significant drawback is that illustrations and maps are identified by scientific names only.

Seventy-two percent of Manitoba's butterflies are illustrated, 73% of Saskatchewan's, and 59% of Alberta's.

BUTTERFLIES THROUGH BINOCULARS. A FIELD GUIDE TO BUTTERFLIES IN THE BOSTON-NEW YORK-WASHINGTON REGION. Jeffrey Glassberg. 1993. Oxford University Press, New York. 160 pp. plus 40 plates of coloured photos (140 x 210 mm) $17 US.

While not particularly pertinent as a guide to our region, this book deserves mention for its approach — field marks as seen through binoculars. A major requirement for butterfly binoculars is a short focus distance. Bausch and Lomb 7 x 26 Custom Compact, Nikon 8 x 20 folding and Minolta "Pocket" binoculars are among the models that focus down to about 6 ft. Note: this distance can vary even among

Table 2. COMPARISON OF TEXTUAL INFORMATION IN EIGHT BUTTERFLY IDENTIFICATION GUIDES*

Information on:	Subspecies	Larva Desc.	Food Yg/Ad/Index	Range Map/Text
North America/ Scott	best	X	X/–/19pp	NA/NA
North America/ Pyle	–	–	X/–/19pp	–/NA
Western Peterson/Tilden	X	X	X/–/8pp	–/WNA
Eastern Peterson/Opler	–	X	X/–/6pp	ENA/ENA
Alberta/ Acorn	–	–	X/X/–	AB/–
Saskatchewan/ Hooper	X	–	X/X/2pp	–/NA,SK
Manitoba/ Klassen	X	X	X/X/5pp	MB/NA,MB
North Dakota/ Royer	–	–	X/–/–	ND/–

Information on:	Biology, Ecology, Studying	Glossary of Terms	Bibliography	Remarks
North America/ Scott	132pp	8pp	3pp	Keys: 33pp
North America/ Pyle	28pp	8pp	–	
Western Peterson/Tilden**	28pp	4pp	6pp	
Eastern Peterson/Opler**	41pp	6pp	4pp	Lists of societies & suppliers
Alberta/ Acorn	15pp	3pp	–	
Saskatchewan/ Hooper	13pp	–	–	
Manitoba/ Klassen	8pp	2pp	5pp	
North Dakota/ Royer	3pp	6pp	–	Lists of societies & suppliers

* All have adult description, similar species, flight periods, habitat and collecting (see text)

** Arrows point to field marks

X Usually

– Not at all or rarely

glasses of the same model, so check more than one if you can.

As the vanguard of future regional lists, this volume includes bar graphs of relative abundance for each of five years by five-day periods and descriptions of nine sites with a checklist for each.

On average, there are two excellent colour photos of living butterflies for each of 150 species. The book illustrates 59% of Manitoba's butterflies, 49% of Saskatchewan's, and 32% of Alberta's.

BUTTERFLIES EAST OF THE GREAT PLAINS. AN ILLUSTRATED NATURAL HISTORY. P.A. Opler and G.O. Krizek. 1984. John Hopkins University, Baltimore. 294 pp. plus 54 plates of coloured photos (220 x 285 mm). $66 Cdn.

The area of emphasis is the United States, east of the Mississippi River. Minnesota is the state closest to the prairie provinces. This book presents 317 colour photos (many 2 to 4 times life size) for 199 of the 292 species covered. Maps are shown for 274 butterflies.

A unique feature is the derivation of each scientific name. Strong points are the Life History section (behaviour, broods, early stages, etc.) and adult nectar sources for each species.

There are images for 67% of Manitoba's butterflies, 54% of Saskatchewan's and 39% of Alberta's. However, an additional 32 prairie province species are treated in the text with maps.

PETERSON FIRST GUIDE TO CATERPILLARS OF NORTH AMERICA. A.B. Wright. 1993. Houghton Mifflin, Boston. 128 pp. 55 colour plates (95 x 185 mm) $6 Cdn.

This book covers the 120 most common larvae — butterflies (57) and moths (63). For each species the author paints adult and larva, often a pupa, chrysalis or cocoon, and sometimes eggs. Text faces paintings, with one to four species per pair of pages. Food plants are given for each species but no index for those is included. Scientific names appear in the species index.

Caterpillars are treated in ten groups, based on appearance — smooth, hairy, with spines, etc. One learns that the caterpillars for such different looking butterflies as Viceroy and White Admiral are "identical," and look "like bird droppings." And that the Wooly Bear grows into the Isabelle Tiger Moth. One hopes that a much more complete caterpillar guide is forthcoming.

AMERICAN BUTTERFLIES. A magazine, published quarterly by the North American Butterfly Association (a non-profit organization), 4 Delaware Road, Morristown, NJ, 07960. 36 pp. per issue, maps and many black-and-white photos. Canadian subscription: $25 US.

The first four issues of this magazine appeared in 1993. There are five or six articles per issue, an editorial, book reviews, letters, and a section on the English names of butterflies.

Subjects have included: starting your own butterfly club, binoculars and video cameras for butterflying, tracking North American Monarchs, the international July 4th butterfly count, raising caterpillars, identification of difficult groups, and descriptions of good butterfly locations in detail along with their butterflies. For instance: a nature reserve 30 mi from New York City hosts 84 species (about 70 can be expected within 55 km of Saskatoon). A 600-acre state park in Texas has 164 species, 13 more than in all of Saskatchewan.

This is an interesting magazine for anyone, particularly amateurs, who enjoy butterflies.

Field guides for the prairie provinces:

More so than birders, butterfliers need more than one field guide, both because upper and lower surfaces of male and female butterflies are seldom illustrated in one volume and because colour and pattern for a species may vary by season and from region to region. With that in mind, Table 1 is presented, giving the proportions of each province's butterflies treated in eight guides.[1,3,4,7,8,9,10,11] The number of species per province is based on NABA decisions as to what is a species and what is a subspecies and includes additions through 1993 to prairie fauna. Also included is the number of images (whole or half butterflies) of a species — the more, the better.

An outline of additional contents in each guide is presented in Table 2. Using the Eastern Peterson as an example, the table reads as follows: For each species, the guide treats adults, similar species, flight period and collecting; images have arrows pointing to important field marks; it seldom lists subspecies, usually gives food plants of larva but, rarely, nectar plants of adult; it includes a six-page index of host plants; both map and range in the text are restricted to eastern North America; there is an introductory 41-page discussion of biology, ecology, and studying (including one or more of watching, conservation, gardening and photographing); a 6-page glossary; a 4-page bibliography, and lists of pertinent societies and suppliers of equipment. (The Western Peterson and North Dakota guides also have this last feature.)

The best field guides for each province? Why not? — if you will settle for just one person's opinion. 1) Your provincial guide. 2) & 3) For Alberta, Pyle and the Western Peterson guides; for Saskatchewan, Pyle and Manitoba guide; and for Manitoba, Pyle and Eastern Peterson. (Scott is probably a better guide than Pyle but it is more a cumbersome home reference rather than a field guide. It is particularly good at describing and illustrating subspecies and detailing life histories.)

All the books above and below are softcover (except for Klotz).

1. ACORN, J. 1993. Butterflies of Alberta. Lone Pine, Edmonton, Alberta. 143 pp. Colour photos, black-and-white sketches. (141 x 215 mm) $17 Cdn.
2. GOLLOP, B. 1989. A selected, annotated bibliography for Saskatchewan butterfly watchers. *Blue Jay* 47:83-88.
3. HOOPER, R.R. 1973. Butterflies of Saskatchewan — a field guide. Royal Saskatchewan Museum, Regina. 216 pp. (114 x 72 mm) $4 Cdn.
4. KLASSEN, P., A.R. WESTWOOD, W.B. PRESTON, and W.B. MCKILLOP. 1989. Butterflies of Manitoba. Manitoba Museum of Man and Nature, Winnipeg. 290 pp. (204 x 254 mm) $22 Cdn.
5. KLOTZ, A.B. 1951. A field guide to the butterflies of North America, east of the Great Plains. Houghton Mifflin, Boston. 349 pp. (120 x 190 mm). Out of print.
6. NORTH AMERICAN BUTTERFLY ASSOCIATION. 1994. Collated list of English names for North American butterflies. *American Butterflies* 2(2):28-35.
7. OPLER, P.A. and V. MALIKUL. 1992. A field guide to eastern butterflies. (Peterson Field Guide series). Houghton Mifflin, Boston. 396 pp. (114 x 182 mm) $21 Cdn.
8. PYLE, R.M. 1981. The Audubon Society field guide to North American butterflies. Knopf, NY. 924 pp. (102 x 192 mm) $21 Cdn.
9. ROYER, R.A. 1988. Butterflies of North Dakota. An atlas and guide. Minot State University, Minot, ND. 192 pp. 12 colour and 1 black-and-white plates. (141 x 215 mm) $20 ± US.
10. SCOTT, J.A. 1986. The butterflies of North America. A natural history and field guide. Stanford University, Stanford, CA. 583 pp. (195 x 260 mm) $50 US.
11. TILDEN, J.W., and A.C. SMITH. 1986. Field guide to western butterflies. (Peterson Field Guide series). Houghton Mifflin, Boston. 370 pp. (114 x 182 mm) $23 Cdn.

A BAR-HEADED GOOSE SEEN IN REGINA — A POSSIBLE FIRST FOR NORTH AMERICA

FRED W. LAHRMAN, #7 3941 Retallack Street, Regina, Saskatchewan. S4S 3C1

About 2:30 p.m. on 11 September 1993, a sunny afternoon, I was at the display ponds which are located east of the Centre of the Arts, across Lakeshore Drive in that part of Wascana in Regina between Wascana Parkway on the west and Highway No. 1 bypass on the east. As I casually approached a flock of grazing geese I was amazed to see a single Bar-headed Goose on the far side of the grazing geese. I approached to approximately 9 m from the bar-head. It eyed me suspiciously but did not panic because, I believe, the pinioned Snow Geese and the free-flying Canada Geese there took no particular notice of me as all are used to people who often feed them.

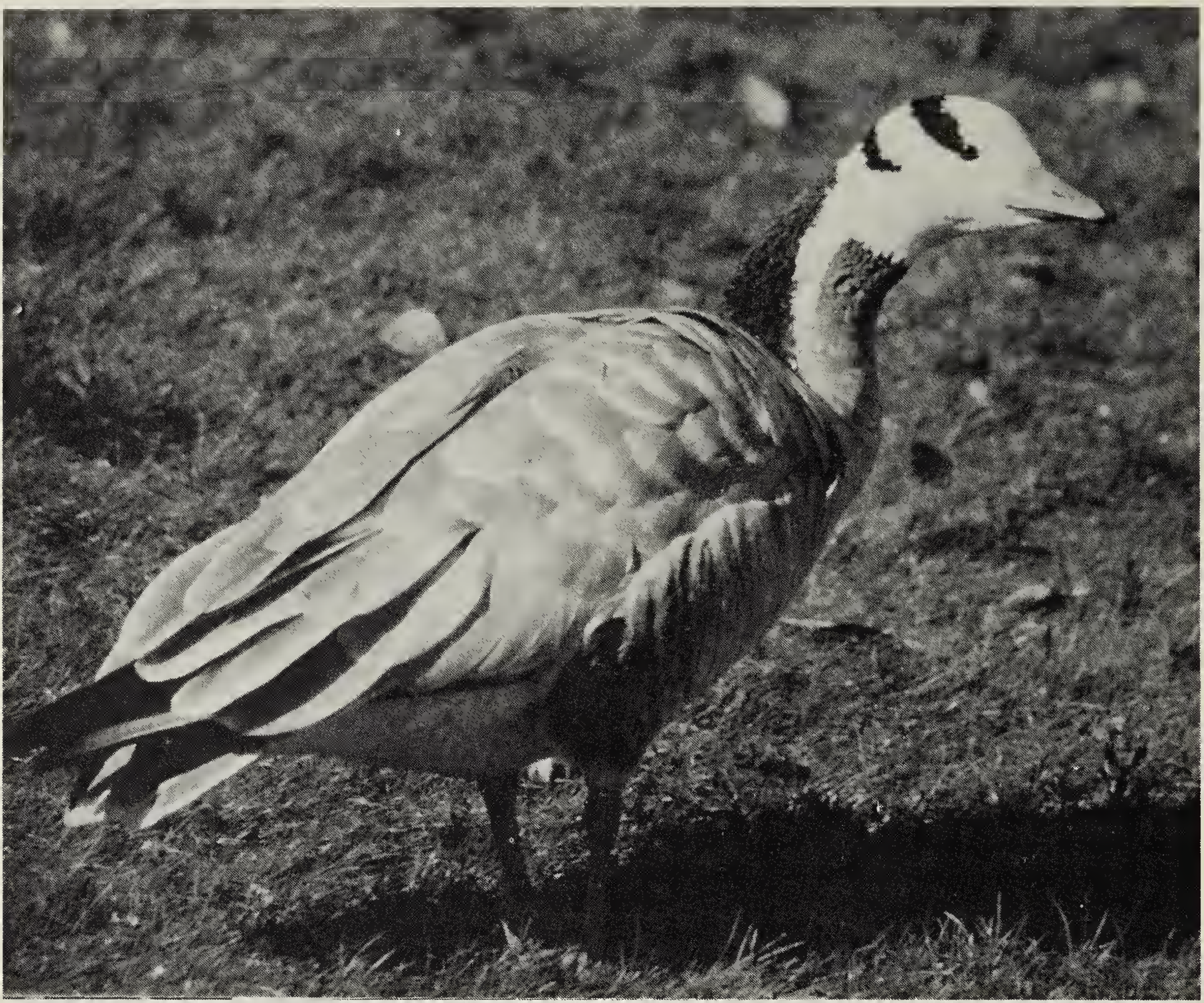
I had no camera with me so I retreated and drove home and got it. While there, I made several phone calls and told those I could get in touch with about the Bar-headed Goose. I then returned to the display ponds where I saw Frank Brazier in position watching the bar-head. I then got into a good position to take pictures.

Others arrived: John Nelson, Elmer Fox, Ferne Lawrence, Sandra and Bob Ewart, and Bill Dohaniuk, who all admired our visitor. Robert Kreba came and mentioned that Bar-headed Geese are commonly kept in zoos and private collections; one would expect that such birds would wear leg bands but our bar-head had none.

I left the area and returned in the evening. The bar-head was not in the display ponds area. It had flown over the display ponds fence and settled on the grass adjacent to the west and near Wascana Lake where I soon found it, feeding alone on the grass. When I walked toward the bird it seemed very wary and about to fly so I stopped walking toward it. The bird quickly slipped into the lake and swam behind a screen of bushes. I saw it no more that day.

The bar-head has developed a regular pattern, more or less. I have observed that it joins flights of Canadas flying out to feed in the fields, returning to rest at various places during the day. It is a large area so I see the bird only irregularly. The last time I saw it was 31 October or 1 November 1993.

It occurred to Frank Brazier that if this was an escaped bird it could have flown up from the USA. If the bird had been imported from collections in the USA there would need to be some sort of permit. Accordingly, he got in touch with Rick Douflin of the Canadian Wildlife Service who said that the Department of Agriculture, Livestock Branch, would issue



Bar-headed Goose in Regina, 11 September 1993 *Fred Lahrman*

permits. It turned out that such birds are brought to Customs with certificates that they are free from disease. The Livestock Branch does not require that the birds be leg-banded.

Imported birds would be familiar with people and used to being fed regularly. If our bar-head was such a bird it would not fly out with the Canadas but would remain in the display ponds where the geese are fed regularly.

Todd indicates that in its home range, the Bar-headed Goose is hunted regularly.[4] Thus, our bar-head displays marked wariness. I believe it is about two years old so it is probably a survivor of the hunt.

Everything I have observed leads me to believe that the Bar-headed Goose, seen and photographed in Regina, is a wild, free-flying visitor from northern Asia. Why it flew to North America, no doubt via the relatively short hop across the Bering Sea, is not known but once over it could very well have joined south-bound geese and eventually reached Regina. [See editor's note that follows.]

Nowhere can I find any reference to any previous occurrence of this species in North America, other than any seen are probably escapees from captivity.[1,2,3]

1. GODFREY, W.E. 1986. The birds of Canada. National Museum of Canada, Ottawa. 595 pp.
2. JOHNSGARD, P.A. 1978. Waterfowl of North America. Indiana Univ. Press, Bloomington. 575 pp.
3. OGILVIE, M.A. 1978. Wild geese. Buteo Books, Vermilion, SD. 350 pp.

4. TODD, F.S. 1979. Waterfowl: ducks, geese and swans of the world. Seaworld Press, New York. 398 pp.

Editorial Note

The following two quotes illustrate the concerns many ornithologists have with sighting of certain species.

From Ralph Palmer's *Handbook of North American Birds*, the following observation on presumed natural occurrence of certain species is worth consideration (p. 243, Red-breasted Goose and others) "among the larger free-flying waterfowl seen in North America, and of very dubious origin, are the Bar-headed Goose (*Anser indicus*) and the Egyptian Goose (*Alopochen aegyptiacus*)."[1]

Another informative observation on the Bar-headed Goose is given in a handbook of the birds of Europe:

"Breeds in high central Asia; south-east Russian Altai to west Manchuria, south to Ladakh, Tibet and Inner Mongolia. Overwinters on southern edge of breeding range (e.g., valleys of south Tibet), but majority migrate over Himalayas into Pakistan, north India and Bangladesh. No reliable indications of westward vagrancy. Identified various European countries north to Finland and Sweden, south to Spain, but such birds so obviously escape that many must go unrecorded; common in ornamental waterfowl collections, free-flying at some. A feral population in Kalmarsund, south-east Sweden, from c. 1930, but probably failed to become established and perhaps now dispersed."[2]

In northern states east of the Rockies, specifically Montana and Idaho, several hundred Bar-headed Geese are held as part of private avicultural collections. Further south, small collections exist in Nevada while 100's-1000's exist in California collections. It is possible that the Regina sighting represents a free-flying bird from California which migrated with Ross' and Snow Geese from the San Joaquin Valley. In Canada approximately 100 Bar-headed Geese are owned by aviculturists: 11 west of Ontario, 50 in Ontario and 35 east of Ontario.

Difficulties do occur in the confirmation of new or unique species to Saskatchewan. The following individuals or agencies may be able to help you determine whether or not the bird you encounter is a wild vagrant or "an escaped prisoner" from a zoo or an avicultural collection. The list of sources is a representative sample. If you cannot determine the status of the species from people such as these then err on the conservative side. Aviculturists in the United States have less stringent permitting systems than do their Canadian counterparts, therefore identifying escapees from aviculturists in the United States poses a large problem. In addition, many aviculturists do not mark or band all the birds in their collections which adds to the birder's dilemma.

Agencies, Aviculture Groups and Individuals
Migratory Bird Species

G. Bogdan or B. Petrar,
Wildlife Enforcement Division,
Environmental Protection Branch,
115 Perimeter Road,
Saskatoon, Saskatchewan,
S7N 0X4

G. Whitney,
Wildlife Enforcement Division,
Environmental Protection Branch,
Room 513, Federal Building,
269 Main Street,

Winnipeg, Manitoba,
R3C 1B2

CITES Information
(CITES = Convention on International Trade in Endangered Species)
c/o D. K. Pollock,
Canadian Wildlife Service,
Ottawa, Ontario,
K1A 0H3

Importation of Exotics

Dr. R. McLean,
Regional Veterinary Specialist,
Import/Export Section,
Food Production
and Inspection Branch,
Agriculture Canada,
Room 210,
1955 Broad Street,
Regina, Saskatchewan,
S4P 4E3

or ask for address of Import Permit Office, Agriculture Canada, Ottawa

Zoos

B. Misner,
Manager,
Forestry Farm Park
and Zoo,
City of Saskatoon,
1903 Forest Drive,
Saskatoon, Saskatchewan,
S7S 1G9

R. Henning,
Acting Zoo Director,
Assiniboine Zoo,
2355 Corydon Avenue,
Winnipeg, Manitoba,
R3P 0R5

Canadian Association of Zoological
Parks and Aquariums,
c/o Calgary Zoo,
Box 3036, Station B,
Calgary, Alberta,
T2M 4R8

American Association of Zoological Parks and Aquariums,
Wheeling, West Virginia,
26003
(International Species Inventory System)

Aviculturists and Avicultural Societies

Gordon Howe,
Shelterbelt Centre,
Box 940,
Indian Head, Saskatchewan,
S0G 2K0

American Pheasant
and Waterfowl Society,
Attention: Lloyd Ure,
W2270 US Highway 10,
Granton, Wisconsin,
54436

Canadian Ornamental, Pheasant
and Game Bird Association,
Attention: Sheila Mannen,
Box 36,
Lyden, Ontario,
L0R 1T0

1. PALMER, R.S. 1976. Handbook of North American birds. Vol. 2: waterfowl (Part 1). Yale Univ. Press, New Haven. 522 pp.
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HOW DID THE CANADA GOOSE GET ITS NAME BEFORE THERE WAS A CANADA?

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The above question was posed by Dr. Bernice Capusten of Red Deer, Alberta. Bernice, a former student of mine and now a radiologist, is the daughter of the late expert in mushrooms and photography, Tony Capusten of Prince Albert, Saskatchewan.[1] Hers is an inspired question, and the answer becomes quite a history lesson.

Because of a supposed resemblance to the bustard in Europe, the early French explorers, beginning with Cartier in 1635, called this large goose the *outarde*.[2] This was not an apt name, the bustard and the goose being completely unrelated, with different habits, and resembling each other only in size. Later English explorers called it the grey goose or, from its call, the honker.

Strangely, this goose received the name Canada Goose in Carolina, from Mark Catesby (1682-1749). Catesby, the son of John Catesby, a well-to-do magistrate in Sudbury, Suffolk, England, and grandson of Nicholas Jekyll, who had his own botanical garden at nearby Castle Hedingham, spent twelve years (1714-19 and 1722-26) studying the birds of Carolina, adjacent states, and the Bahama Islands. A head-and-neck painting of a Canada Goose became Plate 33 in Catesby's magnificent two-volume *Natural History of Carolina, Florida, and the Bahama Islands*, the first volume of which appeared in 1729-32.[3]

Of 109 species of birds illustrated by Catesby, 71 were given binomial Latin names by Carl von Linnaeus in 1758. Linnaeus' tenth edition of his *Systema Naturae*, as Gavin de Beer wrote in the introduction to the 1956 reprint, is "One of the great books in the history of science because it marked the start of an epoch in two essential fields of zoological study: systematics or taxonomy, and nomenclature."[4] Linnaeus often used geographic descriptors for his species, such as *brasiliensis*, *bahamensis*, *carolinus*, and *lapponicus*; he named the goose *Branta canadensis.* Linnaeus in 1758 greatly extended the area considered as Canada when he used the descriptor *canadensis* for three species from Hudson Bay: a subspecies each of the Golden Eagle, Sandhill Crane, and Spruce Grouse.

It is not surprising that settled and prosperous Carolina should have been the main geographical source for Linnaeus' new bird species from North America. It is surprising that the second most cited locality was the remote, sparsely settled Hudson Bay region, and even more surprising that Linnaeus was sufficiently forward-thinking to consider Hudson Bay within Canada. James Isham, a Hudson's Bay Company fur trader at

Hudson Bay, sent specimens to England, and these were figured in another sumptuous and beautifully illustrated book, the four-volume *Natural History of Birds*, published by George Edwards in London in 1743, 1747, 1750 and 1751.

In his third volume (1750), Edwards provided illustrations of the thirteen species that Linnaeus later used as his "type specimens" from Hudson Bay.[5] Edwards used the Catesby name, Canada Goose, saying that, "They are found in Canada, and are brought also to us from New England and Hudson's-Bay." Edwards clearly differentiated between the localities of Canada and Hudson Bay but in 1758 Linnaeus used *canadensis* to encompass a wider area that included Hudson Bay. The fifth edition of the *Check-List of North American Birds*, compiled by the American Ornithologists' Union in 1957, gives "City of Quebec" as the type locality for the Canada Goose, and "Hudson Bay", for the *canadensis* subspecies of Golden Eagle, Sandhill Crane and Spruce Grouse.[6]

As Bernice suggested, the name "Canada" did not come into official use until 1791, when the Constitutional Act of Canada divided Quebec into the provinces of Upper Canada and Lower Canada. In 1841 they were joined to form the Province of Canada, and in 1867 they were joined with Nova Scotia and New Brunswick to form "One Dominion under the name of Canada."[7]

The best account of the origin of the name *Canada* that I have seen is W. Kaye Lamb's entry in *The Canadian Encyclopedia*, 2nd edition (1988).[7] Lamb tells us that Canada is derived "from the Huron-Iroquois *kanata*, meaning a village or settlement."[7] On 13 August 1535, Jacques Cartier was told, by two Indian youths he was bringing back from France, that the route "to Canada" lay to the south of Anticosti Island. By "Canada" the two young men meant the village of Stadacona, the site of present Quebec City. Cartier's use of "Riviere de Canada" was followed by Champlain in 1604. (See footnote). Du Creux's book, *Historia Canadensis* in 1664, used the term Canada to refer to the banks of the river and the Gulf of St. Lawrence. The name came gradually to refer to a more extended area. In 1762, three years after the conquest of Quebec by James Wolfe, General Thomas Gage said that the limits between Canada and Louisiana had never been clearly described.[7]

Yes, Bernice, the name Canada Goose was well established long before Canada became an official name of part of our present country. The legal use of the name Canada, however, was but official recognition of the name that had, since 1535, been widely used to describe an ever-enlarging area that centred on the St. Lawrence River basin.

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Canada Goose — Ken Lumbis

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Footnote: *The Dictionary of Canadian English: A Dictionary of Canadianisms on Historical Principles*, under the entry Canada, states clearly that, "The etymology of Canada is by no means clearly established. During the past three hundred years many solutions of the problem have been offered, most of them fanciful."[2] In addition to the generally accepted explanation given by Kaye Lamb, and the similar explanation of "village dwellers" given by Barbeau in 1954, the more fanciful examples include:

"Aca nada," here is nothing (Jefferys, 1754);

"Can," mouth, and "Ada," the country (Jefferys, 1760);

"Monsieur Cane," who sailed into the country (*Nova Scotia Magazine*, 1789);

"Capa di nada," Cape Nothing (Long, 1791);

"Can a day," a can of spruce beer a day (*Kingston Gazette*, 1811);

"Canara" and "Carnata," because land was taken to be a portion of southern India (*Canadian Naturalist*, 1861);

"Kanatats," they are strangers, said by the natives when the saw the first Europeans (Chambers, 1896);

and a Spanish word meaning gutter, (*Victoria Daily Colonist*, 1964).

MALLARD PARASITIZES SHARP-TAILED GROUSE NEST

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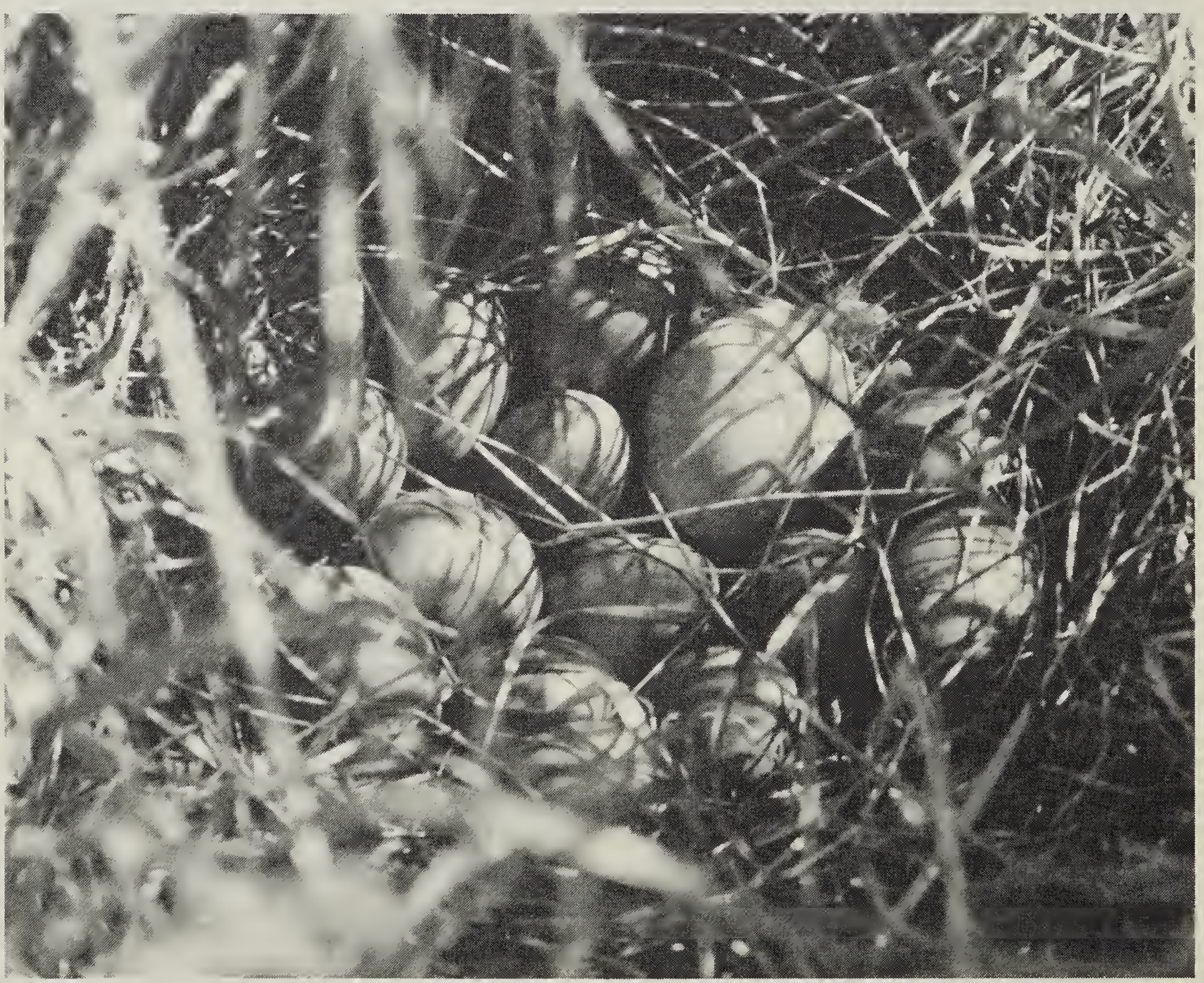
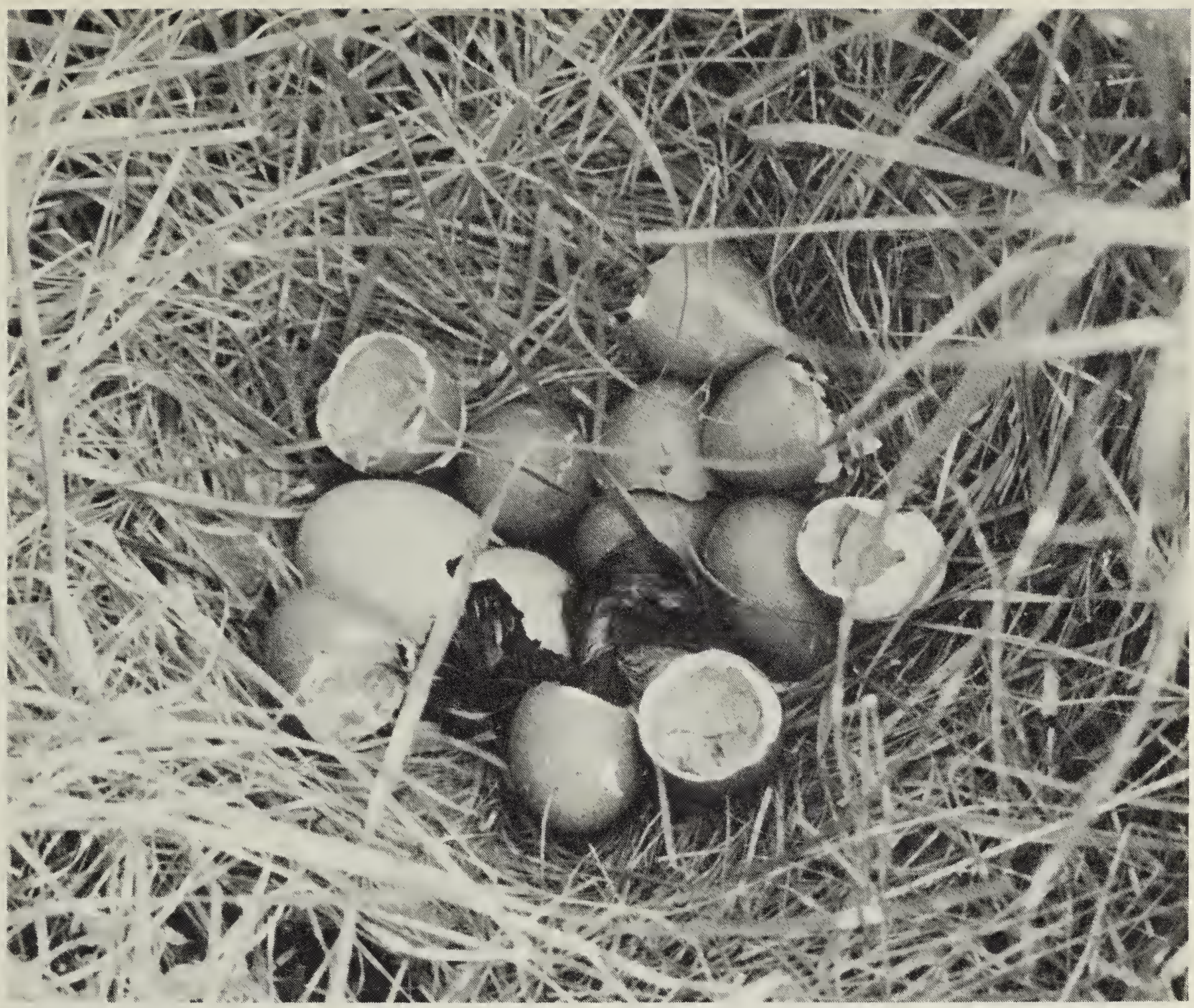
On 12 May 1993, I observed and identified a Mallard hen flushing from the dense nesting cover plots planted by Ducks Unlimited. A good fix between my co-worker and myself produced the hen's nest within seconds of the initial flush. "Cass" (short for Cassandra) let out a loud comment of, "Oh, neat!" immediately upon observing the nest bowl. We found one Mallard egg and two Sharp-tailed Grouse eggs. All the eggs were cold, leading us to believe that the Mallard was attempting to lay her second egg. Variables such as first year of breeding, immediate need to lay egg or a high degree of predator disturbance could account for this parasitic nesting response. As far as I am aware a parasitized sharptail nest by a Mallard duck has never been documented.[1,5,6] The file number for this particular nest was #203.

Our work criteria included nest visits every seven days. So, on 19 May 1993 I was assigned the task of



Mallard egg amongst Sharp-tailed Grouse eggs. *Stephen W. Leach*



Mallard duckling in grouse nest. *Stephen W. Leach*

revisiting nest #203. Revisits for the purpose of research must be carried out in a manner which minimizes the disturbance of the incubating hen and the surrounding vegetation.[3] I carefully approached #203 and started wondering if the nest had been depredated since my feet were within one metre and my face directly over top of it. With my hands I carefully brushed aside the vegetation to expose the nest. An explosion of sound and blur of feathers was my next encounter. A sharptail hen came off the nest not more than a few centimetres from my face. After regaining my composure, I looked down and found eight Sharp-tailed Grouse eggs and one Mallard egg. I candled the Mallard egg and determined the stage of incubation at zero days.[3] Dilemma time! Is this an active waterfowl nest according to our criteria? In a brief discussion with the senior biologist over the mobile radio, we decided that nest #203 was non-active. Feeling great disappointment, I placed a large "T" standing for "termination" at the top of #203's data card.

On 26 May 1993 I happened to be performing revisits in close proximity to #203. My curiosity got the best of me. As I cautiously approached #203 I was better prepared for the extremely close flush of a sharptail hen. I was not prepared for what happened next. The hen jumped off the nest and headed directly toward me. She bumped into my leg and then immediately took to the air. I counted 12 sharptail eggs and one Mallard egg.

Candling of the Mallard egg determined the stage of incubation at four days. I felt a quick jog to the truck for my camera was necessary.

I decided from that moment on I would follow #203's outcome personally.

On 2 June 1993, armed with a margarine container partially full of water, I headed towards #203. The female flushed at approximately two metres. Again, 12 sharptail eggs and one Mallard egg were present. I placed one of the sharptail eggs in the container of water and determined the stage of incubation to be approximately 12 days. The percentage of the egg that is submerged determines this.[4] Candling of the Mallard egg came to approximately 14 days incubation. Individual waterfowl eggs can adjust their incubation stage so that the clutch will hatch simultaneously (M. Gloutney, pers. comm., 1992). The Mallard egg seemed to be exhibiting this phenomena. It seemed odd to me, because the two species of incubating eggs were from different taxonomic families. Mallard hens incubate their eggs for approximately 28 days whereas, Sharp-tailed Grouse incubate for 24 days.[2]

The conclusion I came to after discussion with knowledgeable personnel on this topic was that the Mallard egg would not be able to adjust it's incubation stage to meet that of the sharptail eggs.

Due to my work schedule changing my next visit to the area near #203 was not until 1 July 1993. Very high waterfowl nest mortality had me worried. I watched with utter enjoyment as the sharptail hen flushed within arm's length of me. Also, I experienced a strong feeling of relief that she and her eggs were still okay. The eggs were pipped, even the Mallard egg.

I covered up the eggs with nesting material and left. I returned four hours later with an audience of anxious biologists. This time when the hen flushed I was not the only one that got to enjoy observing her. The sight and sound of scattering chicks was music to my eyes and ears. The Mallard duckling had not quite fully made it out of the egg yet.

Further investigation on nest #203 was not carried out. After discussion amongst our group on the chances of survival of the Mallard duckling, it was decided that the duckling would not likely survive more than 24 hours.

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RECENT RECORDS OF OLDSQUAW IN SOUTHEASTERN MANITOBA

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The Oldsquaw is a "sea duck" with a circumpolar distribution. It breeds in tundra regions and winters on large lakes or at sea.[2] Its migration routes between the tundra and either the Pacific coast or the Great Lakes and the Atlantic both skirt the fringes of populated regions of the prairie provinces.[7,8] Therefore, occurrence in the southern prairie provinces is uncommon but not unexpected.

The frequency of sightings of several uncommon water birds in southeastern Manitoba has increased since about 1975, at least partly because of increased observer coverage of large lakes and rivers (especially Lake Winnipeg and the Winnipeg River) during migration.[11,12,13] The Oldsquaw is a case in point. Sexton and Collins reviewed 20 known records of Oldsquaws in southern Manitoba between 1899 and 1976.[8] All but three of these occurred in the southeast, including six on southern Lake Manitoba and seven on or near southern Lake Winnipeg. The authors concluded that "It is plausible that a small number of Oldsquaw migrate in both spring and fall each year through southern Manitoba."[8] Between 1977 and 1993, Oldsquaw records in southeastern Manitoba totalled about 90 individuals, and the species was recorded each year except 1985 and 1986. It is therefore timely to review these records, and compare the emerging pattern of occurrence with the Oldsquaw's status in neighbouring regions.

Sources of Information The records compiled here were obtained from correspondence within the Manitoba Rare Bird Alert, from rare bird files compiled by Rudolf F. Koes, and from my own field notes. Many of the records have been summarized in seasonal reports for the prairie provinces region in *American Birds*, and a few have been mentioned in other publications.[1,5,10] Seasonal and geographic patterns of occurrence of Oldsquaws in southeastern Manitoba are summarized in Table 1, and records are mapped in Figure 1. An annotated list of all the records has been deposited with the Manitoba Ornithological Records Committee (MORC), c/o Manitoba Museum of Man and Nature, 190 Rupert Avenue, Winnipeg, Manitoba, R3B 0N2. Relatively few of the records have been assessed by MORC, but most birds were seen by more than one experienced observer.

A Note on Identification Adult male Oldsquaws have strikingly different, but equally dramatic black-and-white nuptial and winter plumages. Adult females, eclipse males and immature birds are less distinctive, and are easily overlooked among more common diving ducks. Features to look for on these grayish-brown ducks include a rounded head and fairly short bill, and diffuse whitish facial markings that usually include a broad eye ring, supercilium and neckband. The dark breast-patch varies in intensity from blackish to

Table 1. SUMMARY OF OBSERVATIONS OF OLDSQUAWS IN SOUTHEASTERN MANITOBA, ARRANGED BY DATE

	Sexton & Collins pre-1977	Additional pre-1977	1977-1993	Total
11-20 April	0	1(1)*	1(1)	2(2)
21-30 April	0	0	1(1)	1(1)
1-10 May	2(2)	1(1)	0	3(3)
11-20 May	1(1)	0	5(7)	6(8)
21-31 May	0	1(1)	1(2)	2(3)
Summer	0	0	1(1)	1(1)
11-20 September	1(1)	0	0	1(1)
21-30 September	2(2)	0	0	2(2)
1-10 October	0	0	2(5)	2(5)
11-20 October	2(3)	0	2(4)	4(7)
21-31 October	4(4)	0	9(29)	13(33)
1-10 November	2(2)	0	11(28)	13(30)
11-20 November	0	0	10(19)	10(19)
21-30 November	0	0	3(6)	3(6)
1-10 December	0	0	2(2)	2(2)
Winter	2(2)	0	0	2(2)

* First figure is number of records; figure in parentheses is number of individuals.

Note — For repeat observations at a given location, the maximum number seen within each interval was included in the compilation. Records from 1977-1993, excluding all repeat observations, total 18 on or near the Winnipeg River; 9 on Lake Winnipeg, 4 on Lake Manitoba, and 10 elsewhere.

barely off-white, and often has a diffuse outline. In flight, note the overall dark upper parts, with white outer tail-feathers, but no white wing markings; the flight also has an unusual "floppy" quality. When diving, Oldsquaws submerge effortlessly with the wings held partly open (a useful field characteristic shared with scoters and Harlequin Duck). They also tend to ride low in the water. A typical, nondescript immature Oldsquaw is shown in the accompanying sketch (Figure 2). Oldsquaws in southeastern Manitoba are usually noted alone, or as small groups loosely associated with concentrations of commoner diving ducks.

Spring Migration Sexton and Collins included three spring records (2, 7 and 11 May) in their compilation.[8] Three additional pre-1977 spring reports have come to light in files at the Manitoba Museum of Man and Nature (R.F. Koes, pers. comm.). The Oldsquaw remains a rarity in this region in spring, with only six further records (eight birds) between 1977 and 1993 (Table 1). This is consistent with overall scarcity in the southern prairie provinces, as indicated by comments and records in various *American Birds* reports.

Janssen states that Oldsquaw migration from Minnesota waters of Lake Superior occurs in March and April, with only stragglers remaining in May.[3] This contrasts with observations of spectacular flights — "one of the more awesome events of Manitoulin's ornithological calendar" — involving thousands of birds near Manitoulin Island, Lake Huron, mainly between 16 and 23 May.[6]

Table 2. SUMMARY OF RECORDS OF GROUPS OF THREE OR MORE OLDSQUAWS

Date(s)	Location	Numbers and Observers
8 October 1979	Delta	4: C.W. Cuthbert, G. Ogilvie
4 November 1979	Winnipeg	3: G.E. Holland
24 October 1981	Red Rock Lake	12-14: J.E. Christie
3 November 1984	Grand Beach & Grand Marais	5: Man. Nat. Soc. field trip
24 November 1988	Pinawa	3: M. Siepman
22 October 1989	Seven Sisters Falls	4: P. Taylor
3-17 November 1990	Pine Falls	5-6: P. Taylor, m.ob. 1 remained to 9 December
26 October-16 November 1991	Pine Falls	3-7 (7 on 3 Nov.): R. Parsons, m.ob. 1 remained on 17 Nov.

These likely contribute to the main arrival of Oldsquaws at Churchill in late May.[4] The southeastern Manitoba spring records are scattered between 16 April and 24 May, with an ill-defined peak in mid-May (Table 1). This indicates that some, at least, are not associated with the major flight via the Great Lakes to Hudson Bay. Instead, they may arise from the wintering population on Lake Superior or scattered birds that have wintered elsewhere inland.

Summer Occurrence I observed a female Oldsquaw at close range at Natalie Lake, near Seven Sisters Falls, 4 July 1981. Any comment on the origin of this bird, so far from both the winter and summer ranges, would be entirely speculative.

Fall Migration The vast majority of recent Oldsquaw records in southeastern Manitoba have been in fall, mainly between late October and mid-November (Table 1). This peak is later than the migration of most other ducks. Of the other uncommon sea ducks in southeastern Manitoba, Surf Scoters peak in the first half of October, and Black and White-winged Scoters in the second half.[12] Harlequin Ducks, like Oldsquaws, occur mainly between late October and mid-November.[13] Of these five species, all except the White-winged Scoter occur much more frequently in fall than spring. The pattern of occurrence resembles that reported by Sexton and Collins, except that they included three September records and only two in November.[8] The slight skewing of recent records towards later dates likely reflects the emphasis on field observation, as opposed to hunters' bag records. The late October peak coincides with arrivals on the Great Lakes and rare occurrence elsewhere in the southern prairie provinces and also along the Missouri River in South Dakota.[3,6,9]

Recent Oldsquaw records include small groups of birds at several locations (Figure 1 and Table 2). Also interesting is the number of records at Pine Falls: singles on 17 November 1979, 24-25 November 1984 and 12 November 1989; up to six birds 3 November to 9 December 1990; up to seven, 26 October to 17 November 1991; two on 31 October and 6 November and one on 20 November 1993. Unlike Seven Sisters dam and vicinity, where multiple records have also occurred, the river at Pine Falls is only lightly used by other diving ducks (mainly Common Goldeneyes, Common Mergansers and Buffleheads). Thus, the Oldsquaw has been elevated from a rarity one might

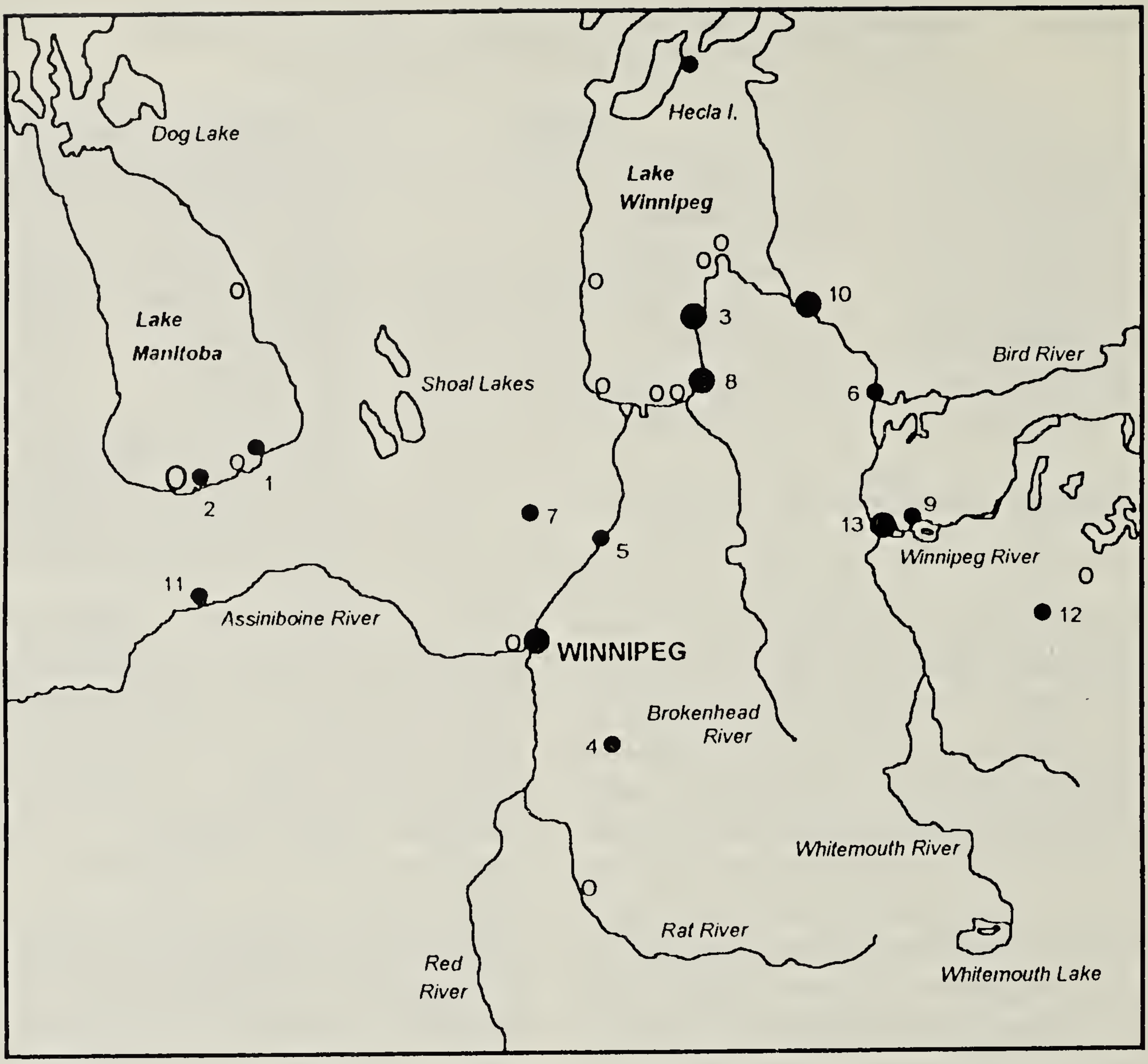

Figure 1. MAP OF SOUTHEASTERN MANITOBA, SHOWING LOCATIONS OF OLDSQUAW RECORDS. Large bullets indicate three or more records since 1976; small bullets indicate one or two records since 1976. Open circles indicate records prior to 1976, compiled by Sexton and Sollins**[8]. Numbered localities are: 1 Clandeboye Bay and St. Ambroise; 2 Delta; 3 Grand Beach and Grand Marais; 4 Kleefeld; 5 Lockport; 6 McArthur Falls; 7 Oak Hammock Marsh; 8 Patricia Beach; 9 Pinawa; 10 Pine Falls and Powerview; 11 Portage la Prairie; 12 Red Rock Lake; 13 Seven Sisters Falls.

hope to see in southeastern Manitoba to a regular migrant that one might actually seek in small numbers at the appropriate place and season. The best time to look is shortly after a strong, cold northerly wind in late October or early November.

Winter Lingerers Two recent, early December records on the Winnipeg River (Pine Falls, 9 December 1990; Seven Sisters Falls, 4 December 1993) appear to represent straggling migrants, rather than overwintering attempts. Sexton and Collins noted two winter records — one bird frozen at Elk Island in 1934, and a second that became a most unusual roadkill near St. Malo in February 1972.[8] The Oldsquaw is a common winter visitor on Lake Superior near Cook County, Minnesota, just 400 km from the Manitoba border.[3] Thus, occasional winter occurrence on the limited open water in southern Manitoba might reasonably be expected. However, Common Goldeneyes are the only ducks that overwinter on the Winnipeg River in significant numbers.[10]

I thank Rudolf F. Koes for information and helpful comments on a draft manuscript.

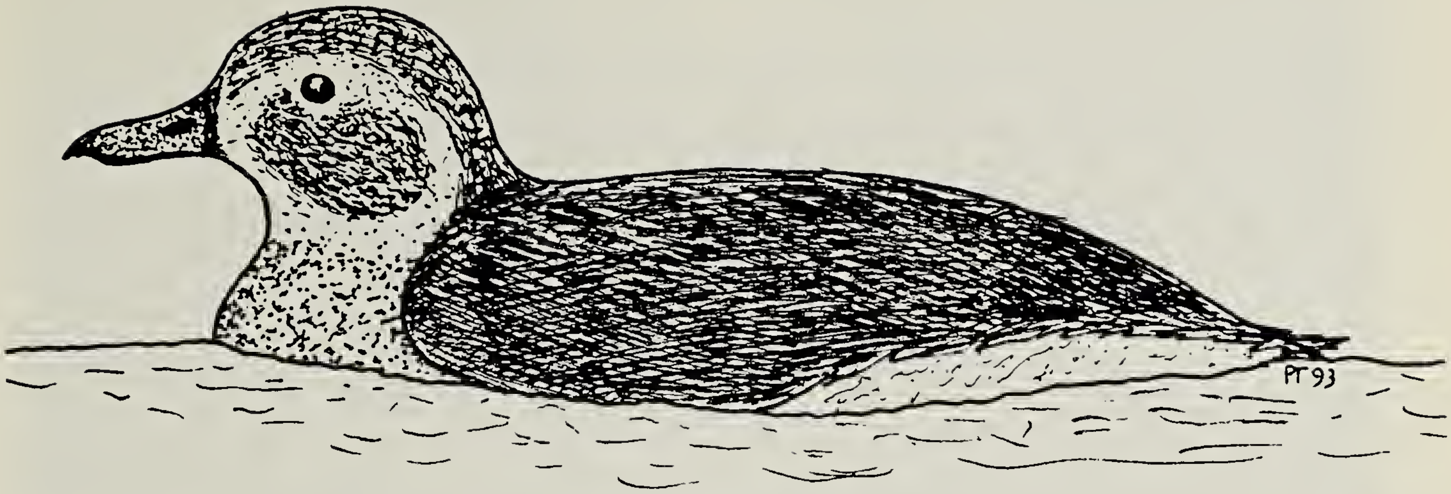

Figure 2. Immature Oldsquaw in full plumage. Peter Taylor

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HEARD BUT NOT NECESSARILY SEEN: SURVEYS OF BIRDS AT GREENWATER AND MOOSE MOUNTAIN PROVINCIAL PARKS

FRANK SWITZER, 1301 Shannon Road, Regina, Saskatchewan. S4S 5K9

In June of 1993 I indulged in an exceedingly pleasant activity. I am referring to a mentally refurbishing activity called bird listening which is not to be confused with bird watching. In the latter activity one remains squinty eyed, continually scanning like radar, lest some silent passer-by be missed. Bird listening, on the other hand, allows for conformity to a natural borne disposition on my part, to indulge, in apparent lassitude, eyes closed, to hear more acutely the objects of interest. Common to both activities is the birder's affliction, twitching. For the uninitiated, twitching refers not to random movements related to slumber, but to the act of marking a checklist with each new species seen or heard.

Through a Nature Saskatchewan

Photo 1. Typical road fringe habitat found along the Grid Road at Greenwater.

Frank Switzer

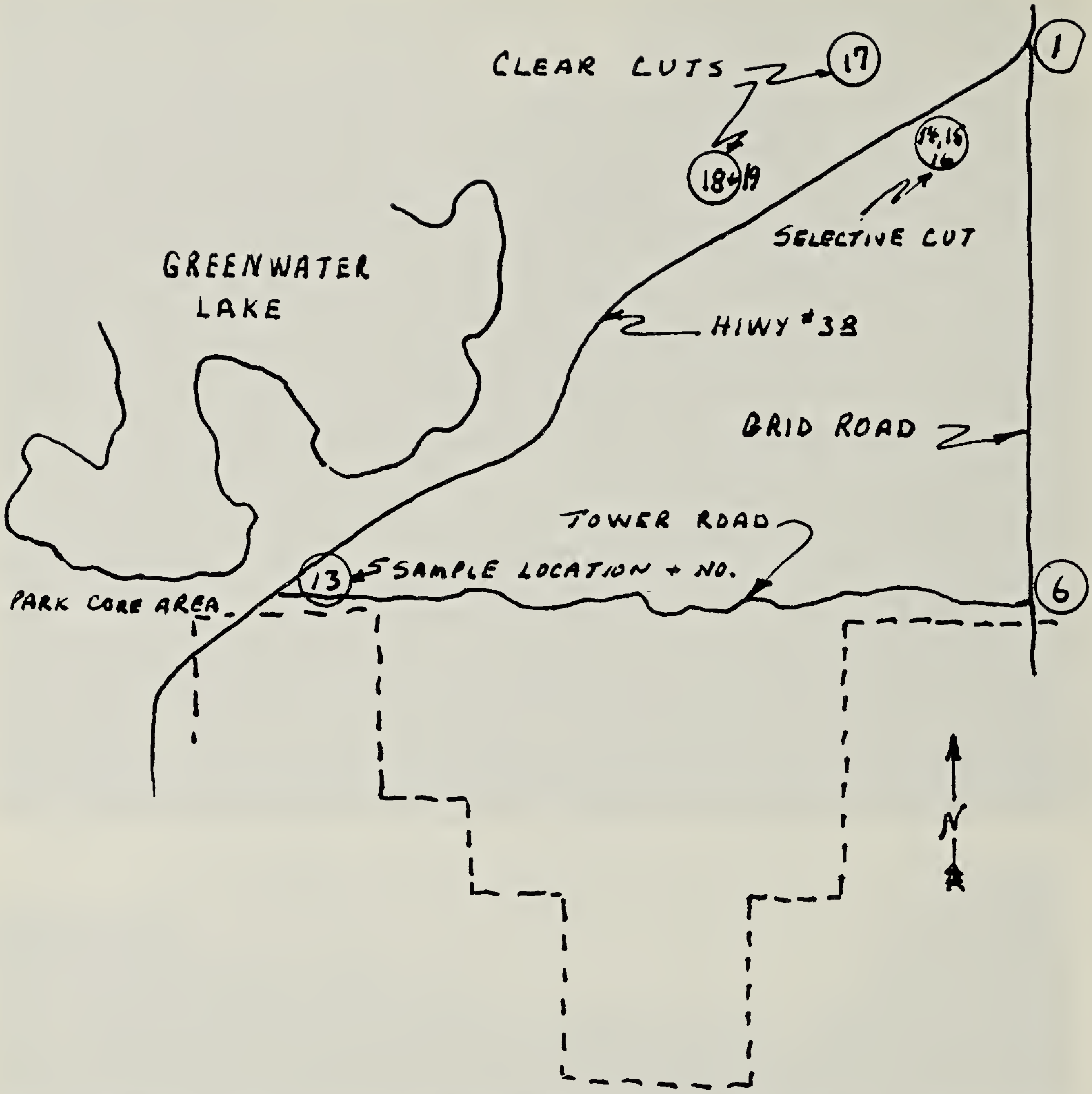
Photo 2. Stewart Lake trail at Moose Mountain. It is similar habitat to that along the Gillis Lake road at Moose Mountain and the Tower Road at Greenwater. *Frank Switzer*

Member Initiative, I undertook a project to conduct breeding bird surveys in two provincial parks. The information was collected to help assess vegetation management practices being used in Greenwater and Moose Mountain Provincial Parks, namely clearcut and selective cut logging.

The weather of June 1993 was not the kindest with respect to undertaking breeding bird surveys. Of the month's thirty days, if you remember, there were only seven mornings with conditions marginally satisfactory for conducting any kind of a breeding bird survey. I consider myself lucky to have been able to use three of those seven relatively windless and rain-free days. However, on two of the three I had to resort to wearing ski pants. Starting at four o'clock in the morning with temperatures in the 0-+5^0 Celsius range was, to say the least, a knee-chilling experience.

In Greenwater Provincial Park, vegetation management is in aspen forest where trees were severely stripped of bark and branches by a hail storm in 1991. The most severe damage is in about a kilometre-wide strip north and northeast of the lake. Within this strip, aspen show poor regeneration. Sample sites were selected in undamaged, slightly damaged and severely damaged uncut forest. Selective cut and clearcut vegetation management locations within the most severely hail damaged area were also sampled.

Representative uncut habitat sampling was performed from a vehicle along the grid road (see Photo 1) from its junction with Highway 38 (sample site #1 on Map 1) northeast of the park core area, south for

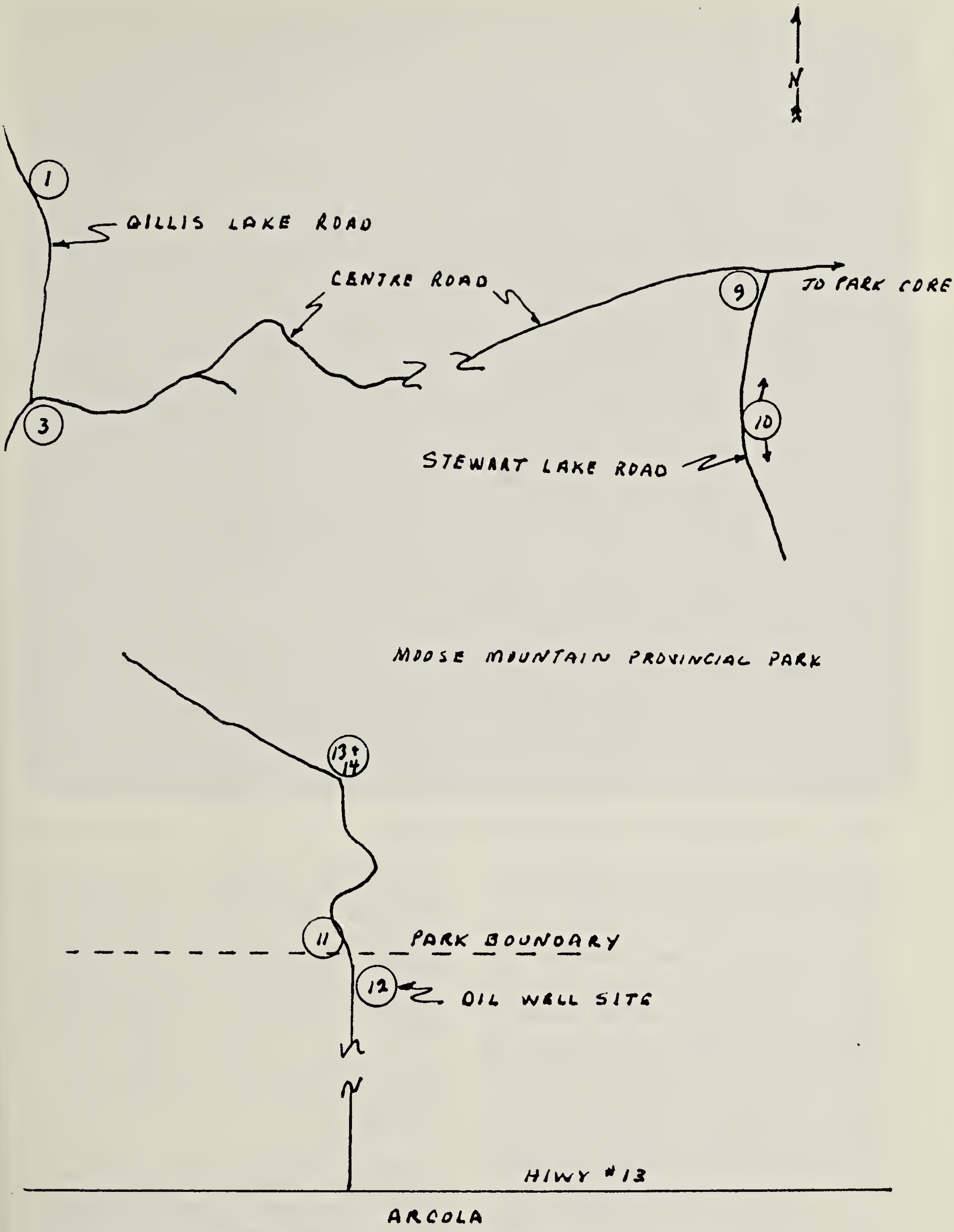


Map 1. SURVEY LOCATIONS IN GREENWATER PROVINCIAL PARK. *Frank Switzer*

approximately 6 km and then west along the "Tower Road" to the cross-country ski trail parking lot (#13). Thirteen stops at 1 km intervals were made for sampling purposes. Habitat ranged from hail mutilated to undamaged.

The three cut areas were accessed by foot, each location being visited for a 30-minute period. On the southeast side of Highway 38 in the selective cut, trees have been removed from several narrow meandering strips, covering about 15 ha (#14, 15, and 16 on Map 1). Found on the northwest side of the highway, the other two cut areas are clearcuts. One is long and narrow, of about 45 ha (#17 on Map 1); the second is "U" shaped, of about 70 ha (#18 and 19).

In the selective cut area three samples were taken, one near the southern most area, one in the northern part and one where the access trail branched into the various cuts. Because of good audibility and sample locations not separated by more than 0.5 km, there was some difficulty separating individuals of all species, as to location, within the limited area of the cut. To avoid multiple counts of individuals only one central location should have been chosen.



Map 2. SURVEY SITES WITHIN AND ADJACENT TO MOOSE MOUNTAIN PROVINCIAL PARK.

Frank Switzer

Movement through the area gathered a retinue of alarm-calling White-throated Sparrows. However, if there had been no movement through the area, I may not have observed the Ruby-throated Hummingbird feeding on the abundant Tall Lungwort (*Mertensia paniculata*).

One sample was taken in the smaller of two clearcuts, about a third of the way down its length. From this location the entire area could be seen and heard. I walked

Photo 3. 1992/93 logging area at Moose Mountain. *Frank Switzer*

into this clearcut and sat quietly to allow distress calling to subside.

Two samples were taken in the larger "U" shaped clearcut, one on either side of the central area of standing trees. With the exception of two species, the sample locations yielded identical numbers and species. This probably meant all but the two species were double counted. One sampling location would probably have been adequate. Red-winged Blackbirds were the only species seen foraging within the cut area.

The Moose Mountain Provincial Park breeding bird count consisted of 12 sample locations, nine at 1 km intervals starting on the Gillis Lake road two km north (#1) of the centre road and along the centre road (#3 to 9) to the Stewart Lake trail (see Photo 2). The tenth sample was taken during a 1.5 km walk along the Stewart Lake trail. This trail was impassable to all but four-wheel-drive vehicles. The walk, however, was superb. The density of calling territorial males almost supersaturated my aural sense.

Samples 11 and 12 (Map 2) were taken in an aspen clearcut of about 90 ha, approximately 1.5 km in from the south park boundary north of Arcola. Aspen removal was undertaken during three consecutive winters, with the most recent being harvested in 1992-93 (see Photo 3). Aspen regrowth is prolific. All green ash and a few aspen were not cut so their area is sparsely treed. Most of the cut area can be viewed from the central

American Robin at nest. *Hans Dommasch*

height of land. The sample method chosen for this location was two half-hour sits, one beginning at 6:00 p.m. and the second at 4:45 a.m. the following morning. Species were noted as observed (seen or heard) either in the cut area or in the surrounding aspen forest fringe.

Four species were confirmed as breeding within the cut area. Mourning Doves were nesting on the ground in dense regrowth cover 200 m southwest of the sample site. Barn Swallows were in the cab of a parked skidder. A House Wren was seen carrying food into a wood pile. A Mountain Bluebird pair were observed feeding young in a woodpecker hole in one of the standing aspen poplars. An American Robin, a Roufous-sided Towhee and a Song Sparrow exhibited strong territoriality within the cut.

Two other samples were taken in the evening — one at the park boundary and one in a four-acre bulldozed oil lease clearing 200 m south of the park boundary. All species seen and heard at the boundary location appeared to be territorial. All species noted in the area of the bulldozed clearing were at or in the wooded fringe. There did not seem to be any foraging activity within the clearing. These two samples were not officially part of the survey and are not calculated in the listing.

I must confess to one flaw in my bird listening character. I am a technological junky. For the past 30 some odd years I have been making recordings of bird songs. This has been limited by the cost of state of the art cassette recording equipment. About six years ago I started using a Sony Walkman Professional

Table 1. BIRDS RECORDED AT MOOSE MOUNTAIN AND GREENWATER PROVINCIAL PARKS.

The number ahead of the "/" indicates the individuals heard or seen; the numbers following indicate the sampling location(s) for each species recorded.

Species	Moose Mountain	Greenwater
Common Loon	1/4	1/11
Common Goldeneye		2/17, 19
Red-tailed Hawk	1/12	
Sharp-shinned Hawk	1/12	
Cooper's Hawk	1/12	
Broad-winged Hawk	1/12	
Spotted Sandpiper		1/15
Ring-billed Gull	12/1	
Mourning Dove	5/2, 8, 9, 12	2/1, 2
Yellow-bellied Sapsucker		2/6, 15
Downy Woodpecker	2/1, 12	
Hairy Woodpecker	2/1, 12	
Yellow-shafted Flicker	4/2, 6, 7, 12	3/14, 16, 17
Western Wood-Pewee		3/10, 15, 17
Alder Flycatcher		1/1
Least Flycatcher	35/all sites	6/1, 11, 15, 17, 18, 19
Great Crested Flycatcher	4/1, 9, 12	1/9
Ruby-throated Hummingbird		1/15
Tree Swallow	8/4, 9, 10, 12	1/12
Barn Swallow	2/12	
Blue Jay	1/12	
Black-billed Magpie		1/13
American Crow		1/13
Common Raven		4/13, 18, 19
Black-capped Chickadee	3/8, 9, 10	
Red-breasted Nuthatch	1/8	
House Wren	5/1, 2, 8, 10, 12	5/7, 12, 15, 17, 18
Mountain Bluebird	2/12	
Veery	19/all except 7, 9	9/1, 8, 10, 11, 19
American Robin	16/1, 2, 9, 10, 12	6/1, 12, 13, 16
Gray Catbird	1/6	
Cedar Waxwing	5/8, 12	5/7, 12, 13
Yellow-throated Vireo	1/6	
Warbling Vireo	9/2, 7, 8, 9, 10, 14	3/1, 14
Red-eyed Vireo	15/1, 2, 3, 4, 5, 10, 12	18/all but 4 sites
Orange-crowned Warbler		1/1
Yellow Warbler	26/all sites	5/1, 8, 9
Chestnut-sided Warbler	4/3, 6, 7, 8	4/6, 7, 8, 9
Black-and-white Warbler	15/all except 8, 9	1/11
Mourning Warbler	1/12	
American Redstart	27/all sites	32/12 of 19 sites
Ovenbird	8/5, 7, 8, 9, 10, 12	4/2, 3, 4, 5
Common Yellowthroat	6/6, 7, 8, 9, 10, 12	2/1, 3
Rose-breasted Grosbeak	1/4	2/1, 5
Roufous-sided Towhee	2/12	
Chipping Sparrow	2/12	3/2, 3
Clay-colored Sparrow	1/12	4/12, 13, 15
Savannah Sparrow	2/8	1/12
Song Sparrow	8/2, 3, 5, 6, 7, 12	3/17, 19
White-throated Sparrow	7/5, 9, 10, 12	51/17
Red-winged Blackbird	7/2, 9, 10	4/2
Yellow-headed Blackbird	2/10	
Brown-headed Cowbird	10/2, 3, 5, 8, 10, 13	4/3
Northern Oriole (Baltimore)	5/2, 6, 8, 12	5/5
American Goldfinch	12/8, 9, 12	3/2

Savannah Sparrow *Wayne Lynch*

model WM-D6. This portable piece of equipment has specifications rivalling the best component stereo model and has provided me with excellent aural memories. This year I graduated to a laser minidisk recorder, Sony model MZ-1. Its sound recording capability is phenomenal, 20 to 20,000 Hz absolutely flat response. It has a fidelity that is only limited by the quality of the play-back audio system.

I tried out this new recording technology during the survey at Moose Mountain Provincial Park. After recording species heard the conventional way, I took an extra three minutes at each stop to digitally record the soundscape. I used matched microphones in two parabolic reflectors aimed to cover opposite directions of the sample sites. The results are exciting. Some refinements are needed, but I see significant potential for breeding bird data gathering via this method. Indications are that computer analysis of this digitally gathered data is not far off.

I have a couple of other observations to share. First, while sitting and observing the oil lease clearing at Moose Mountain, two buck White-tailed Deer walked across the clearing to within 50 m. They went about their evening browsing activities, taking their time to sample vegetation and move on to places only a deer would know. The second, a magnificent creature, a bull Elk, was on the grid road, at Greenwater. It was a great sight, metre-long rack stubs in velvet. Damn, 4:15 a.m., overcast, not enough light for photos.

Table 1 summarizes the two surveys. The total species count for Moose Mountain was 44; for Greenwater it was 36.

Since this survey is the first, one can draw few conclusions. However, it would appear that there may not be a significant differences in species, their distribution and density comparing clearcut fringe and road allowance fringe. Bear in mind that all cuts sampled are adjacent to or within 1 km of existing road rights of way. The species recorded on the survey in Greenwater are reconcilable with those documented for the area in Donald F. Hooper's book, *Birds of East-Central Saskatchewan.* At Moose Mountain there was species compatibility with the park's bird checklist.

UNUSUAL NEST SITE OF BROWN THRASHER

JEAN BANCROFT, 306 - 200 Tuxedo Boulevard, Winnipeg, Manitoba. R3P 0R3

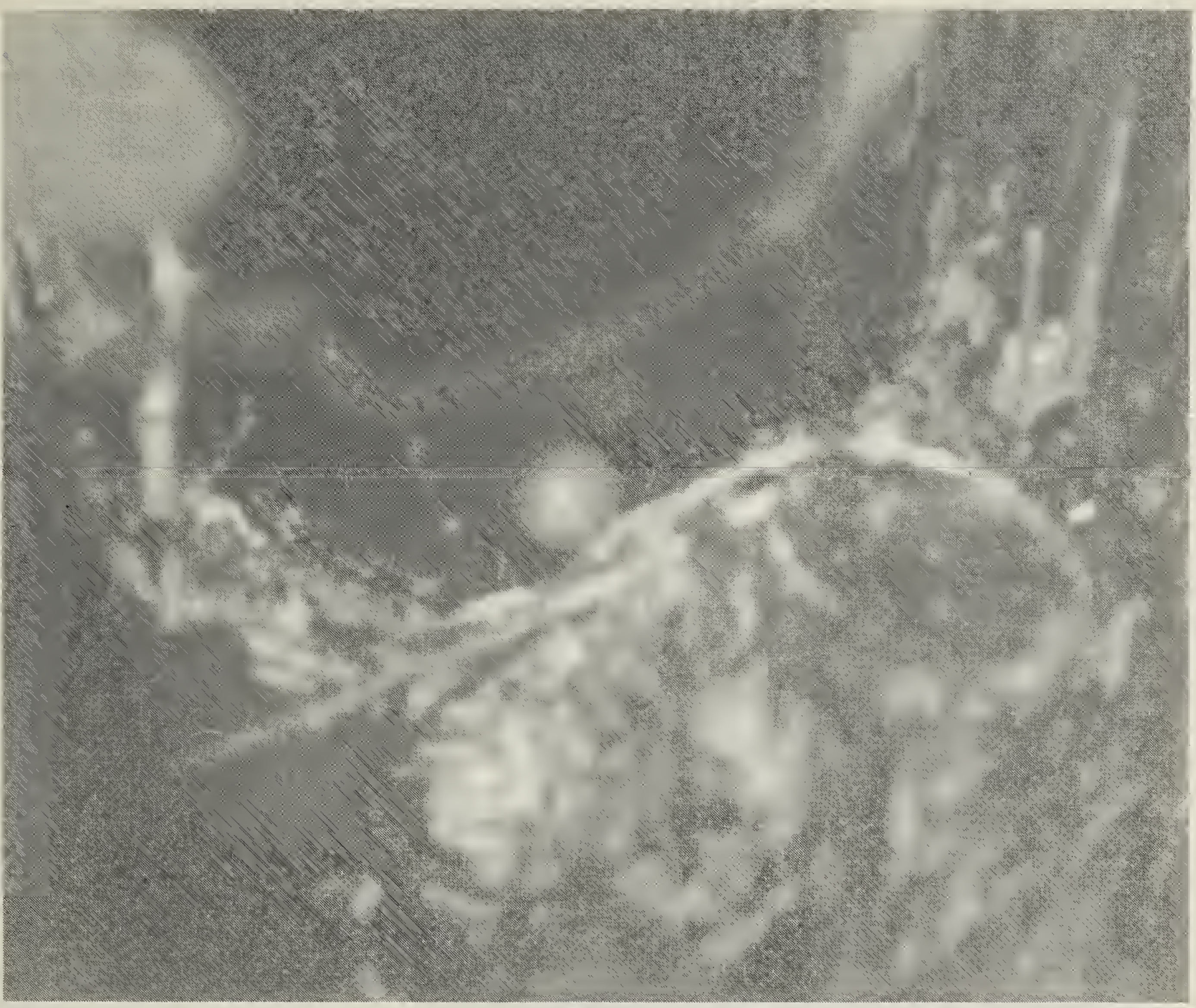
From 26 to 28 May 1993, I visited Grand Marais, on the south basin of Lake Winnipeg, as the guest of Letty and Ernie Taylor. Soon after my arrival I meandered down one of the lanes and heard and saw at a distance a singing Brown Thrasher perched in the top of a wayside tree. Its melodious song presumably was to attract a mate and establish a territory. The Brown Thrasher belongs to the same family (Mimidae) as the Northern Mockingbird and Gray Catbird, both notable songsters. It is said that this thrasher often tries to "out-catbird the catbird."[5] A retiring, solitary bird, "This mimic thrush has remarkable vocal skills."[2]

The nest site is "probably selected by the female" and "may or may not be near the singing tree."[1] But I decided to go out early the next morning to where I had heard the male. I stood close to a small wooded area by the lane and was pleasantly surprised when a Brown Trasher flushed from inside a depression in a snag. This snag was about 5 ft. tall and 34 in. in circumference. A bulky nest built of twigs, dried leaves and rootlets was nestled approximately 5 1/2 in. down inside the snag. Bent and other authors mention that the majority of Brown Thrasher nests are built 2-7 ft. above the ground in shrubs or trees.[1,3,4,6,8] In May 1992, at Grand Marais, I observed a pair of Brown Thrashers carrying twigs and dried leaves to a nest site on the ground in a small wooded area. Many years ago I observed a nest, across the lake at Whytewold, in a low bushy spot close to a fence. A nearby resident told me at that time she was watching another thrasher nest underneath her bedroom window.

I was unable to stay at Grand Marais to follow the outcome of the nest in the snag but Ernie Taylor kindly kept observations for me. On 4 June he took a picture through the thickened foliage with a telephoto lens; it shows four eggs, the usual number expected.[3,4,8] Incubation takes 12-14 days and is shared by both sexes.[4,8] On 10 June, according to Ernie, both adults gave loud calls and he discovered there were only two eggs in the nest (see photo). When he checked the nest on 15 June at 8:20 a.m. he found the nest empty. There were no signs in the nest, or nearby, of any broken shells. The nest could have been predated, but I suspect that it was lost following parasitism. The Brown Thrasher is the largest passerine known to be parasitized by the Brown-headed Cowbird; the latter removes host eggs about the time it lays.[1,4]

A photo taken by Taylor on 10 June shows what appears to be a cowbird egg, though the picture is not clear enough to be certain of this. When he next visited the nest on 3 July, the nest remained empty and there were no thrashers present.

I have often wondered why this bird was named Brown Thrasher. I



Two Brown Thrasher eggs in snag nest. *Ernie Taylor*

can understand the colour, but "thrasher"? Some authors suggest that the name comes from its habit of thrashing about among the leaves and rubbish; another suggestion is related to the bird's habit of thrashing large insects or other prey, that is, beating them against the hard ground to kill or mutilate them.[1,7] Though unfamiliar to many people, this attractive songster is another creature of benefit to mankind. Much of its food consists of invertebrate animals, spiders, moths, beetles, caterpillars, etc. Wild fruits and weed seeds form a lesser part of its diet.[1]

The breeding distribution of the Brown Thrasher is in southern Canada as far west as southeastern Alberta. It is accidental in Churchill. This bird winters in the southern United States, especially those bordering on the Gulf of Mexico.[4]

I wish to thank Robert W. Nero for his constructive criticism of an earlier draft of this article.

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Thrasher

Mostly they skulk in thickets
giving us uncertain glimpses
as they perform their chores,
a flash of dappled brown
the rust of old oak leaves,
but I saw one dancing at noon
running on a hot sandy road
repeatedly pecking the ground
then swiping its head sideways
down onto the shining sand,
frenzied with ants, I guessed,
as it urgently pranced erect
before flying to shaded glades.
Catch them at dawn in song
when they perch up high singing
twice-repeated whistled phrases
melodies that quiet cows or foxes,
then their striped breast glows
that russet tail hangs still
and all the urgent woods thrill.

- *Robert W. Nero*, Wildlife Branch,
Box 24, 1495 St. James Street, Winnipeg,
Manitoba. R3H 0W9

* * *

SNOWY OWL CAPTURES ROCK DOVE IN MID-AIR

ROBERT W. NERO, Wildlife Branch, Box 24, 1495 St. James Street, Winnipeg, Manitoba. R3H 0W9

Snowy owls are known to take a variety of birds as prey, including pheasants, grouse, ducks, gulls, and Rock Doves, that is, common pigeons.[1,2] The actual capture of a pigeon, however, is rarely witnessed. On 24 January 1994, shortly after I left the office in an industrial section of Winnipeg, I saw this happen (corner of Wellington and St. James). I was driving south at about 2:00 p.m.; just as I slowed for cars stopping at an intersection, a large dark bird flapping high overhead caught my attention. I was looking into the sun and the bird appeared black, hence my initial belief that it was a Common Raven. It appeared to be involved with three pigeons, but was it harassing them? Or was it the other way around? Just then, it reappeared from behind a building for a moment and I knew it was not a raven. I quickly turned off into a driveway, jumped out and searched the sky. It was a bright sunny day, just a little hazy, and I held my hand to shield my eyes from the sun. And, yes, "Snowy Owl!", I exclaimed. It was circling about at a height of perhaps 24 metres. As I watched, puzzled by its behaviour, it flew towards two more pigeons which were flying slowly westwards, across a strong north wind, wings upheld in the display so common to their kind. When they dropped down, the owl wheeled about and a moment later circled back towards yet another approaching pigeon, a lone bird also flying westwards. The owl gained steadily on the pigeon, overtook it and then, to my utter delight, seized it. "It caught it!", rang through my mind.

The owl and its prey dropped down and out of my sight behind buildings, whereupon I jumped into my car and drove around frantically trying to find where the owl had come down. I wanted to determine, if possible, its age and sex. Finally, I parked the car, hurried over the top of a pile of snow and ran down a railroad track into the cold wind, searching wildly. It was a strong cold wind, the temperature, as I later learned, being -20^0C. I couldn't find the owl, but there were a dozen large flat roofs nearby and I concluded that the owl must have landed on top of one of them, out of sight. My impression is that the owl was mostly white, perhaps an adult male or female, but viewing conditions were poor.

The more I watch Snowy Owls, the more impressed I am with their versatility. Usually, I just drive around in the country counting them, marvelling at their ability to perch high on top of steel hydro towers at -30^0C with a strong wind blowing. Thirty years ago in the *Blue Jay*, I described the capture of a Lesser Scaup by a Snowy Owl.[3] This present observation of a Snowy Owl capturing a Rock Dove as adeptly as a Peregrine Falcon has further enhanced my image of this large raptor.

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JANUARY SIGHTING OF A NORTHERN SHRIKE IN REGINA

JEANNETTE PEPPER, 50 Sommerfeld Drive, Regina, Saskatchewan. S4V 0C7

During the particulary cold week of 12-19 January 1994, an especially interesting guest visited our yard in southeast Regina, Saskatchewan. Our family had been enjoying the company of redpolls, Pine Siskins, nuthatches and chickadees at our two bird feeders throughout December. On 12 January, shortly after 12:00 p.m. a Northern Shrike landed in an apple tree. It proceeded to finish eating something it had caught. Wayne (Pepper) and I were unsure if its prey was one of our regular visitors since we could not clearly identify it.

Although both the Northern and Loggerhead Shrike are grey and black birds with white breasts, our visitor had a black mask through the eyes, not an eye bar which is characteristic of the Loggerhead Shrike.[1] As well, the Loggerhead Shrike only winters from the north-central United States southward.[1] Since the wind chill factor was approximately 2300 at the time of the sightings, we were convinced that we were actually observing a species which is known to wander as far south as Regina in mid-winter.

On 16 January, Wayne first spotted a flash of two birds speeding around and behind the spruce trees in the back yard. Almost instantly the shrike reappeared carrying a Red-breasted Nuthatch in its bill. Losing its grip the shrike dropped the nuthatch into the deep snow on the lawn but immediately retrieved it. The nuthatch was already limp and motionless. The shrike carried the nuthatch approximately 10 ft. to the same apple tree used previously on January 12th and proceeded to lodge it in the crotch of a branch. The bird immediately tore off the head of its prey then flew with it to a nearby tree. Repeated attempts to lodge the head between branches were made until the head did not fall to the ground. Once the head was firmly in place, the shrike tore off pieces of flesh which it ate immediately.

After the head was eaten, the shrike returned to the first tree and firmly lodged the remaining body in the crotch of two branches and continued its meal. However, it did not eat the entire body in the time we were watching. Once the shrike was satisfied, it tore off a couple of the larger pieces and flew to different nearby trees where it appeared to be storing portions of food for future meals.

Once finished feeding and storing its extra food, the shrike sat on a lower branch of the apple tree and watched Pine Siskins that had returned to the feeder some 2.5 to 3 m away. After roughly ten minutes the shrike flew away without attempting to catch a Pine Siskin.

On 19 January, a Northern Shrike was again observed briefly in our backyard. It swooped through the trees a couple of times, but once it landed it was apparent to Carolyn (Pepper) and myself that its hunt in our yard had not been successful. It did scare the other birds away for a few hours.

We felt privileged to have viewed this small example of backyard ecology, particularly in light of the fact that only one Northern Shrike was observed in all of Regina during the 1993 Boxing Day Bird Count.[2]

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* * *

Hearing birds: Experienced birders can do a lot of their identifying by ear. Theodore Parker of the United States, who died last year in a plane crash, was perhaps the world's leading ornithologist, writes Sarah Engham of the Baltimore Sun. He could identify 3,500 or so species of birds by their songs alone. Two years before his death, being interviewed in the Ecuadorean jungle, he heard a bird. "That accelerated sort of staccato is a blue-tailed trogon. I've never heard it before," he said. Asked how, then, he knew it, he replied: "Because it's the only neotropical trogon I haven't heard." *Bird-watching. The Globe and Mail, 8 March 1994.*

PARTIAL ALBINISM: A CHALLENGE TO IDENTIFICIATION

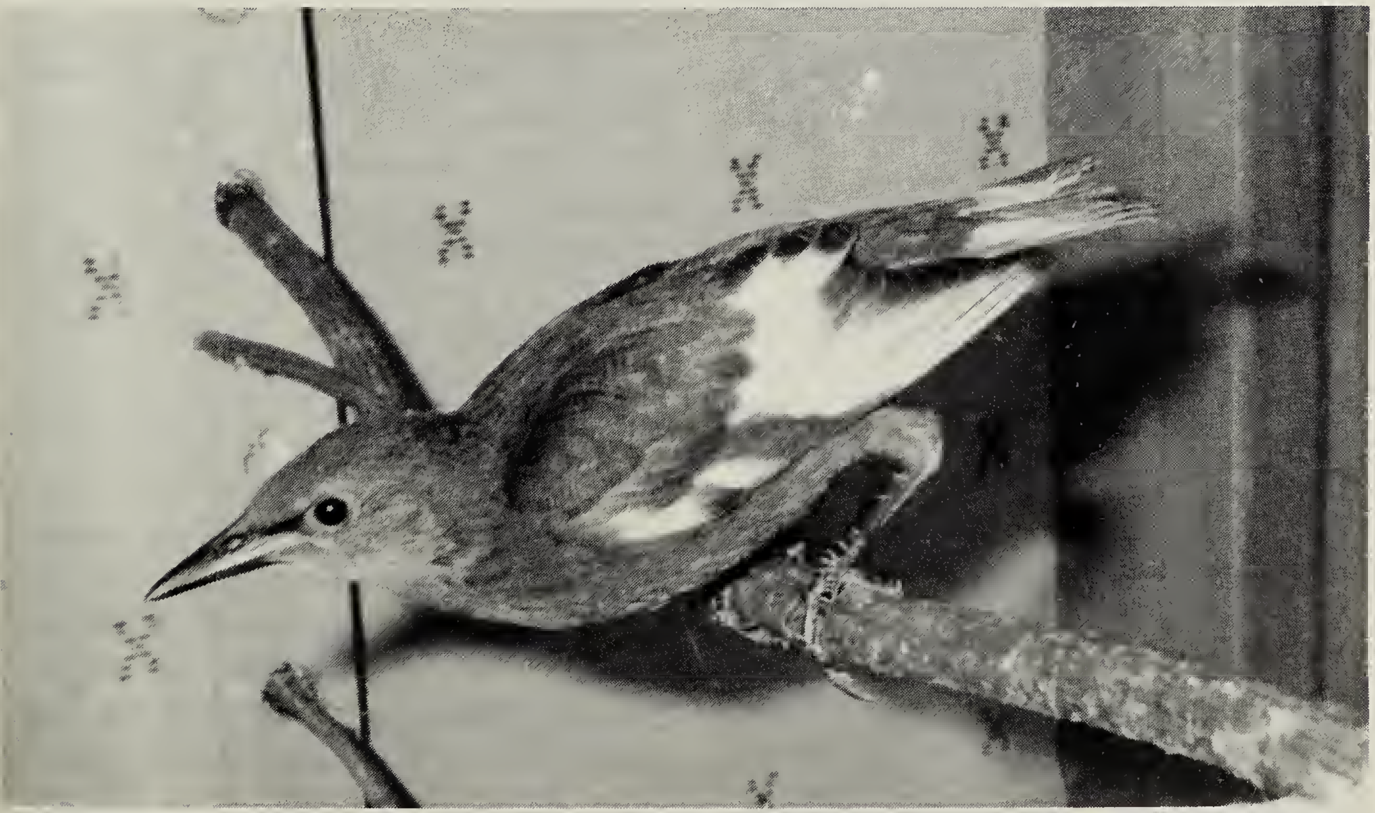
ASTRID MACLEOD, 308 Harvard Avenue West, Winnipeg, Manitoba. R2C 1Y6

Albinism is an interesting phenomenon that can provide unique challenges to a wildlife rehabilitator. As an orphan care volunteer with the Manitoba Wildlife Rehabilitation Organization (MWRO), I was presented with just such a challenge in May 1993.

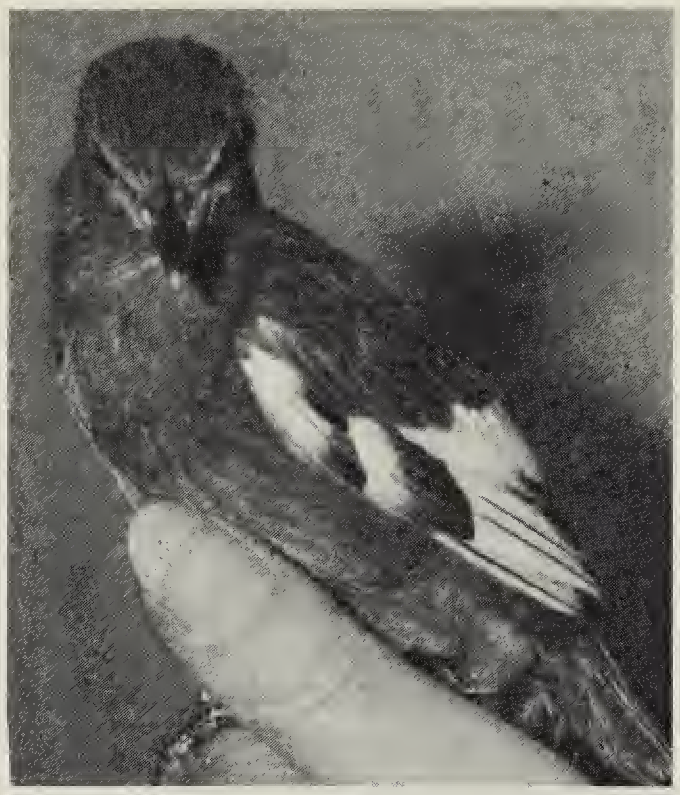
A nest of hatchling birds had been removed from a private plane coming out of storage in St. Andrews and delivered to MWRO in Winnipeg. The nest was deep and round, set inside a box of stones. Inside the nest were four, tiny hatchlings, an unmarked blue egg, and a long black and white feather. The hatchlings were quite chilled, obviously having missed more than a few feedings.

After placing the birds in an incubator nest for stabilization, the immediate task was to identify them. The hatchlings were covered with white and pale grey neoptiles, their gapes were a pale pink as were their skin and feet, and their swollen gape flanges were creamy white. Typically this amount of information linked with the shape, colour and size of prominent physical features (e.g., beak, feet, etc.) leads to fast identification. In this particular case, however, such was not to be. I consulted many bird identification books, but every time I thought I had the answer, some small detail was incorrect. The gape flange resembled that of a European Starling, but the gape colour did not correspond. I consulted with other wildlife rehabilitators and biologists but a positive identification could not be made.

During the time that followed, the hatchlings failed to thrive. Perhaps they had been too cold and too long without food, but one by one I watched them fail, until only a single



The mystery bird develops markings. *Astrid MacLeod*



A partial albino European Starling. *Astrid MacLeod*

bird was left. With each passing day, it became increasingly more important to make an accurate identification so that the bird's diet could be made to correspond to its natural needs.

By the time the bird's eyes had opened and it developed pin feathers, a large number of people were attempting to provide an identification. In addition to the bird's physical features, the blue egg and black and white feather that were found in the original nest were added as clues. The egg presented many possibilities, while the feather narrowed the range to a handful of choices, none of which correlated to blue eggs or pink gapes.

As the days passed, the bird's skin darkened to a grey colour and became scaly. The beak elongated and blackened, as did the legs and feet. The feathers began to emerge and were dark charcoal in colour, almost black. Finally, the primary and secondary feathers unfurled ... they were black with white stripes. The tail was yet to appear.

With the lack of identification, feeding became quite a concern and worry. To cover all bases, soft-bill diet, monkey chow, seeds, nuts, fruits, insects and even fish were offered during the hand-feeding stage. The bird readily accepted everything and anything. Possibly this omnivorous behaviour signified it to be a magpie or bobolink. Unfortunately, the bird rapidly outgrew bobolink status, and as its tail started to emerge it became obvious that it was not a magpie either.

Now a fully developed fledgling, our mystery bird was deemed physically healthy, but still lacked an identity. Release could not be considered until we ascertained if it could socialize with its own kind.

As luck would have it, the bird maturity finally elicited vocalizations — the magic clue. At this point in time, MWRO Centre Manager, Brian Ratcliff, came to look at the bird and upon hearing the bird's song identified it as a European Starling. Subsequent examination revealed that we indeed did have a European Starling, but one with partial albinism of the primaries and secondaries, as well as a band at the end of the tail feathers.

The mystery was solved. The bird was placed with other European Starlings and after three weeks of successful socialization and acclimatization was ready for release. As a good-bye gesture, the bird's breast plumage broke out in the trade-mark speckled pattern just prior to release — confirmation that we had indeed made a correct identification.

As a wildlife rehabilitator, this was my first experience working with partial albinism and I found it to be unbelievably fascinating. The extreme amount of variability in the physical characteristics of young partial albinos presents a unique challenge in providing immediate and proper care.

THE HOUSE THAT JACK BUILT

KEITH BARR, 40 Richardson Crescent, Regina, Saskatchewan. S4S 4J3

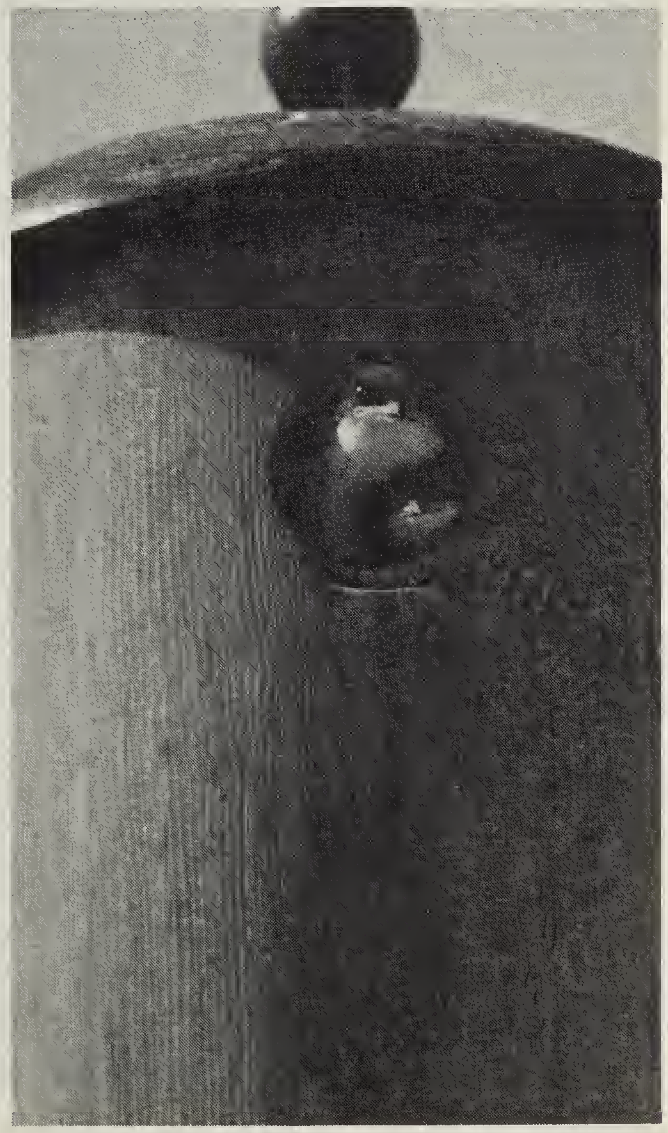
A few years back I built a birdhouse. I made a one-inch hole for the entrance, just the right size for a wren. I mounted it on the roof of my garage. I expected to have a wren come and nest within a few days. I waited all that summer for a wren to check it out. Nothing came, not even a house sparrow, to see if it would make a suitable home. I left it out all winter to weather.

The house is mounted so that I can see the entrance when I sit at the kitchen table. In the spring I watched the entrance as I ate my meals. Don't ask me what I had to eat — I was so intent on watching that birdhouse that most likely my wife could have put almost anything on my plate and I would have eaten it.

The saying goes that a watched pot does not boil. It could also be said that no bird comes to a watched birdhouse. The House Sparrows are nesting in every nook and cranny they can find, but not one even tries to enter the house that Jack built (okay, so I changed my name for this story).

I have another birdhouse hanging in my apple tree which is about 20 feet from the vacant birdhouse. A wren has built a nest in this house for the last two years, but not once did I ever see the wren go near the birdhouse on the garage. Maybe the house needs more weathering. I leave the house out again all winter long.

Spring comes again. My wife and I are on the deck having one of many coffee breaks that retired people seem to have. We watch a pair of Tree Swallows flying overhead. Low and behold, one swallow actually tries to enter the hole, but alas, I have made the hole too small. The swallows leave. I feel rather dejected. I have come within one half inch of having Tree Swallows in the birdhouse. If the entrance had been cut one and one half inches instead of one inch, the swallow could have gotten in. If I make the hole bigger, maybe next year the swallows will



"Jack's" birdhouse *Keith Barr*

nest in the house. Better do it now or I will forget. And I do. That is, I make the hole larger.

The next morning, during coffee, we notice the Tree Swallows circling the house. One swallow perches, looks inside and eventually enters the hole. We watch to see it come out. We wait and wait. No swallow. We are sure that one of us would have seen it come out. I get the ladder and open the house. The swallow is sitting on the floor of the house. Nothing is wrong with the bird as it flies away. I check the birdhouse and see the reason the swallow couldn't get out. The distance from the entrance to the floor is too high for the bird to jump. There is not enough room for it to fly and the inside walls are too smooth to climb out. I tack wire screening to the inside wall and replace the birdhouse. No self-respecting swallow is going to return to a place where you can't get out. Oh well, maybe next year.

Next year arrives a few days later when a pair of Tree Swallows take up residency in the birdhouse and raise a family. Success at last!

* * *

Common Goldeneye sitting in the entrance of her nesting box, Clearwater Lake Provincial Park, MB. *R.A. Mitchell*

RELATIVE ABUNDANCE OF BIRDS DURING THE BREEDING SEASON IN SASKATOON, SASKATCHEWAN

NAVJOT S. SODHI, Department of Zoology, University of Alberta, Edmonton, Alberta. T6G 2E9

The surveys of urban areas have revealed that such habitats support a high diversity of breeding birds.[2,5,6,11,12,13,14,15] It has been suggested that urban areas can provide refuges for the native birds whose habitats have been reduced.[9] Recently, bird assemblages of urban and nearby unaltered habitats have been compared to determine the extent of permeability of the urban habitats for nearby native birds.[1,3,4,7,8] Surveys of urban birds, therefore, may be useful in assessing the impact of human settlement on the native bird fauna or as a base line for long-term changes in bird populations. However, relatively little is known about the structure of Canadian urban bird communities. This paper presents a relative abundance of birds, estimated by point counts made at various localities in Saskatoon (52°07'N, 106°38'W) during a study of predator-prey relationships of nesting Merlins.

Surveys were made almost every day between 11 May and 30 July 1987. A total of 264 was made — 88 each month at stations located 0, 50, 250, and 450 m from each of 11 Merlin nests. Within constraints of availability of alleys and roads, stations were randomly selected with a new selection for each count day. Whenever possible, different stations were used for subsequent counts

White-crowned Sparrow *Wayne Lynch*

Brewer's Blackbird, Canmore, Alberta *G.L. Holroyd*

Franklin's Gull *Fred Lahrman*

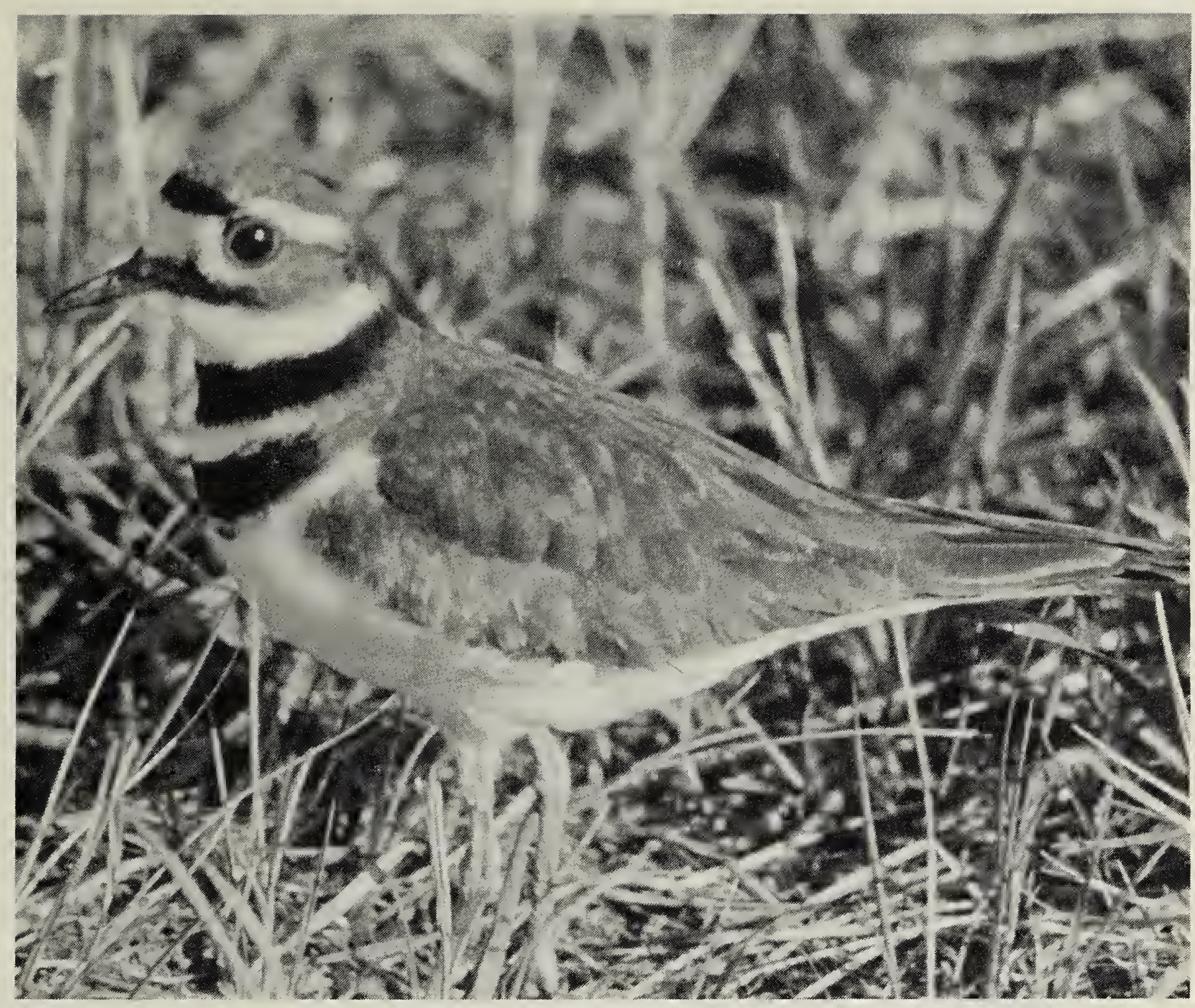
near a nest. All birds, seen or heard during seven minutes, were counted within 25 m of each point (or station). No bird was knowingly counted twice. Censuses were made only in fair weather and in the first four hours of daylight. The impact of nesting Merlins on bird abundance and detailed methods are presented elsewhere.[10] I arbitrarily classified birds that formed 6% of the total as common, 1-5% as uncommon, and < 1% as rare.

The locations of the 11 nests are given in Table 1. Two to three were surveyed during each sampling day. Each nest was visited twice during a month. It took me about 50 minutes to survey the area around a nest. The present survey recorded 36 species (Table 2). The four most common species were: House Sparrow, Chipping Sparrow, Rock Dove, and American Robin. These species formed approximately 64% of the total avifauna. Of the rest, 11 were uncommon and 21 were rare species.

I found a significant correlation between relative abundance and frequency of occurrence of the 20 most common birds ($r_s = 0.998$, $p < 0.05$). This suggests that species that were more common were more widely distributed within the city.

Two common points have emerged from quantitative studies on the urban bird communities from different locales around the world, including the present study. First, the House Sparrow was the most common species in all the surveyed cities, e.g., Tucson (USA),[1,9] Tornio (Finland),[4] and Legnica (Poland).[11] Secondly, three or four species formed the majority of recorded individuals.

Many studies have noted an increase both in bird abundance and



Killdeer at Condie *Gary W. Seib*

diversity with age of neighbourhoods in the surveyed cities.[4,5,6,7,13] As planted shrubs and trees grow, they attract more birds. Based on year of development of neighbourhoods, Saskatoon can be broadly divided into three age categories, i.e., less than 27 years (before 1960), 27-41 (1960-1946), and more than 41 (42-66 years; before 1946) years. I did not make bird counts in the neighbourhoods that were less than 27 years old, and 24 counts made on the outer limits of the city could not be assigned to any age category. However, 120 bird counts were made, respectively, in the neighbourhoods that were between 27-41 and more than 41 years of age. I did not find a significant difference in either mean number of species ($t = 0.33$, df $= 238$, $p > 0.05$) or individuals ($t = 0.85$, df $= 238$, $p > 0.05$) recorded in these two neighbourhoods (Table 3). It is possible that both bird abundance and diversity increase up to a

Table 1. LOCATIONS OF 11 MERLIN NESTS IN SASKATOON WHERE POINT COUNTS WERE MADE.

1705 Munroe Avenue
1406 14th Street East
719 8th Avenue North
City Parks and Recreation
    (Avenue P and 31st Street)
700 Avenue H North
President's Residence
    (Elliot Avenue and College Drive)

School for the Deaf (Cumberland Avenue
    and Osler Street)
Buena Vista Park
Simpkins (north side;
    NW of Preston Avenue and Circle Drive)
110 112th Street
Central Avenue and 117th Street

Table 2. RELATIVE ABUNDANCE, FREQUENCY OF OCCURRENCE, AND STATUS OF BIRDS REVEALED BY COUNTS MADE AT 44 POINTS IN SASKATOON BETWEEN 11 MAY AND 30 JULY 1987.

Relative abundance is number of birds of a given species detected x 100/Total number of detections of all species; and frequency of occurrence is the number of counts in which a given species was present x 100/total number of counts.
C = common, U = uncommon, and R = rare birds. + = values less than 0.5%.

Species	Relative Abundance*	Frequency of Occurrence	Status
House Sparrow	34.5	80.7	C
Chipping Sparrow	13.7	79.1	C
Rock Dove	8.1	26.5	C
American Robin	7.9	47.3	C
American Crow	4.8	33.7	U
Brewer's Blackbird	4.3	24.2	U
Cedar Waxwing	4.1	21.9	U
Black-billed Magpie	3.4	25.3	U
Ring-billed Gull	3.0	27.6	U
Clay-colored Sparrow	2.9	27.2	U
Yellow Warbler	2.1	19.7	U
European Starling	1.7	4.2	U
Merlin	1.6	15.1	U
Franklin's Gull	1.3	7.6	U
House Wren	1.2	14.8	U
Western Kingbird	0.9	4.9	R
Western Meadowlark	0.9	8.3	R
Black-capped Chickadee	0.6	6.1	R
Common Grackle	0.5	4.9	R
Tree Swallow	0.5	1.5	R
American Goldfinch	+	3.8	R
Red-eyed Vireo	+	2.6	R
American White Pelican	+	1.3	R
American Kestrel	+	1.9	R
Killdeer	+	1.1	R
White-throated Sparrow	+	2.3	R
California Gull	+	0.8	R
Horned Lark	+	+	R
White-crowned Sparrow	+	0.8	R
Red-tailed Hawk	+	+	R
Mourning Dove	+	0.8	R
Yellow-headed Blackbird	+	+	R
Northern Oriole	+	+	R
Blue Jay	+	+	R
Red-winged Blackbird	+	+	R
Great Horned Owl	+	+	R

*Total detections = 3,050

Table 3. EFFECT OF AGE OF NEIGHBOURHOOD ON SPECIES RICHNESS AND BIRD ABUNDANCE. ± = standard deviation.

	Age of neighbourhood (years)	
	27-41	42-66
Mean no. of species	5.0 ± 1.91	4.9 ± 2.06
Range	0-11	1-13
Mean no. of individuals	11.2 ± 5.93	10.6 ± 5.56
Range	0-34	1-25
Sample size	120	120

certain vegetation age. In the present case it may be within 27 years, after which these factor numbers level off.

I thank Lynn W. Oliphant, Paul C. James, Andrew Didiuk, and Alan R. Smith for participation in discussions while designing methodology, and Lynn W. Oliphant for making comments on the manuscript. This study was supported by a Natural Sciences and Engineering Research Council of Canada grant to Lynn W. Oliphant and a University of Saskatchewan graduate scholarship to the author.

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GRAY SQUIRRELS AND MAGPIES

KEITH BARR, 40 Richardson Crescent, Regina, Saskatchewan. S4S 4J3

I have spent about an hour a day, on average, in Wascana Park for the last three years. I have been told that there are Gray Squirrels in the park and they have been there for several years. I had not seen one till early this spring when my wife spotted one on the ground going from tree to tree, followed by a magpie. It appears that the magpie was as interested in the squirrel as I was.

Five weeks later we see a Gray Squirrel again. This time three magpies are following the squirrel as he goes from tree to tree. Just a minute! The magpies are not following, they are chasing the squirrel and being very boisterous about it. Now this squirrel is not a country bumpkin just in town for the day. No siree! This guy has street sense. Even being harassed by the magpies, the squirrel stops about 20 feet from a road and lets several cars go by before he makes a dash across the road to thicker bushes. The magpies are right behind. The squirrel stops a

Gray Squirrel up a tree *Keith Barr*

Magpie *Keith Barr*

couple of feet from the ground. One magpie walks around the tree scolding. As we approach, the squirrel jumps to the ground and lopes to some bushes about ten feet away. The magpie hops along behind. The squirrel then goes up a tree and into a nest box that had been put out for a Northern Flicker. The clamor that the magpies have been making attracts two crows that come and perch nearby to see what is up. One magpie is more aggressive and keeps flying at the hole of the nest box. Two of the magpies leave, but not the aggressive one. Every time the squirrel pokes his head out of the hole the magpie flies in and pecks at it. This goes on for about five minutes. The crows lose interest and leave. The squirrel does not show itself for several minutes. Perhaps he has curled up and gone to sleep. The magpie moves off a short distance. There is no activity at the nest box for several more minutes. We lose interest and leave.

Was the squirrel robbing a magpie nest or were the magpies just making sure that it stayed out of their nesting area? Whatever the reason, we haven't seen the squirrel for a couple of weeks.

SHORT-TAILED SHREW APPARENT CAUSE OF MORTALITY OF EASTERN SCREECH-OWL

ROBERT W. NERO, Wildlife Branch, Box 24, 1495 St. James St., Winnipeg, Manitoba. R3H 0W9

Although domestic cats are said to refrain from eating shrews because of their strong scent glands, they occasionally kill and bring them home. Owls of most species, on the other hand, routinely consume shrews.[1,3] When it's too cold for mice, shrews, with their high metabolic rate and constant need for food, may be out foraging. Last winter, a Short-tailed Shrew came to search for seeds under our bird feeder, coming out from under the snow, crossing a sidewalk, and burrowing into the snow again next to our house. On two occasions, my wife saw it doing this from our living room window. It has since fallen victim to our neighbor's cat, much to my dismay. This is not the first shrew noticed by us at our feeders. One that I captured several years ago was used for two winters by Herb Copland and myself as a live lure for Great Gray Owls. It relished sunflower seeds. Last January, after a long cold spell, I found the distinctively splay-footed trail of a Short-tailed Shrew running for 30 paces on top of the snow. This was in a weedy field a few kilometres south of our home. Since Meadow Voles were plentiful last winter, it was expected that shrews, which prey on voles and mice, may have been more abundant than usual.

A Short-tailed Shrew, watched coming to another feeder almost daily by Ken Bachynsky at his home in this same area of Winnipeg, met its death when attacked by an Eastern Screech-Owl. The owl was first seen about 8:30 a.m. on 15 January 1994, lying on the snow beneath a feeder. When the frozen bird was picked up, it had its prey stuck to its feet. Ken told me that this large dark "mouse" had been scrounging bird seeds beneath their feeder ever since the first snowfall. Usually, it was seen in the early evening, at about the same time of day as the one in our yard. He had believed it to be a mouse or vole. When the frozen duo were brought to the Wildlife Branch on 17 January in hopes of getting a possession permit, the true identity of the owl's prey was discovered. Gordon G. Graham advised Ken that the Eastern Screech-Owl was on a list of species not admissible for private use, and then brought this matter to my attention.

When examined by Graham the owl "appeared almost alive, for it was in perfect condition, ear tufts erect, eyes partly open (though glazed!), wings lowered and slightly out from the sides, tail fanned, plumage immaculate. It looked as if it had been mantling its prey." I looked at the frozen carcass the next day. At first glance the shrew appeared to be held by the bird, but the owl's feet were withdrawn and its tightly clenched talons were pressed on top of the shrew which had its head facing toward the owl's right. The owl apparently died after it captured the shrew, and while still crouching upon it. The owl and the shrew were frozen together by melted snow and blood. The shrew had a talon puncture mark on the left flank, its left front foot was almost severed, and there was a bite mark, with torn skin, on the right side of the back of the neck. That bite to the neck, or back of the head, is usually made by an owl shortly after seizing prey. It is the killing blow. This wound appeared to be the source of the blood on the owl's bill, right belly plumage and right foot. A small wound on the inside fleshy part of the owl's right foot may have been caused by the shrew. The owl, a grey-phase adult female (ovary present), weighed only 140.2 grams. It was thin and lacking any fat. The shrew, an adult male, weighed 26.6 grams.

The Short-tailed Shrew is a robust, muscular creature, a tough adversary to subdue, even for domestic cats. Although this is speculative, the evidence suggests that the owl was bitten by the shrew before the owl killed it. The shrew's bite presumably paralyzed the owl, but not before the owl finished off the shrew, and the owl then froze to death. The fact that the owl had let go of the shrew, but was still crouched upon it, suggests that death took place quickly. It was cold that night. Environment Canada, as determined by Graham, recorded a minimum temperature of -35°C (mean temperature -31°C), with a wind chill of 2200.

The Short-tailed Shrew, as I pointed out in a *Blue Jay* article in 1956, is a venomous mammal.[7] Zoologist Charles J. Maynard, apparently the first person to feel and record the effects of being bitten by this shrew, made good note of his experience as early as 1889.[5] Maynard's detailed description of that edifying experience was later quoted at length in a book on Wisconsin mammals.[4] I'm impressed by the fact that Maynard, although "suffering acutely" from a burning sensation, shooting pains, swelling, etc., where bitten on the fingers of both hands and on his arms, didn't drop the shrew! He wanted to study it alive, so he continued to hold the struggling animal as he hurried to his house, where he "placed the shrew in an improvised cage." Those early naturalists were a determined lot. Folks may have thought that Maynard's report was exaggerated, for more than 50 years passed before anyone followed up on his observations. Mammalogist Oliver P. Pearson discovered that a poisonous substance similar to cobra venom is contained in the shrew's submaxillary salivary glands. When extracted and injected by Pearson into laboratory mice "convulsions were followed by death, due to respiratory failure."[9]

It has been established that a shrew's glands contain enough poison to kill 200 mice.[1,4,9,11] The venom serves to subdue the shrew's prey — primarily mice and voles, and even, surprisingly, small rabbits.[10] "Although mice usually form only a small item in the normal shrew diet, short-tailed shrews may prey upon voles to a much greater extent when meadow voles (*Microtus pennsylvanicus*) are abundant. In one study, mouse remains were found in 56 per cent of the shrew stomachs examined. During the winter of 1942-43, vole populations near Ithaca, New York, reached eighty per acre; and by spring short-tailed shrews were thought to have accounted for fourteen to twenty-seven voles per acre."[1]

The cases in which a raptor dies as a result of an encounter with prey must be rare, but there have been a few such reports. Bent, for example, refers to an observation of a Red-tailed Hawk "attacking a rattlesnake, which bit the hawk twice and killed it. As this was in Nebraska it probably was one of the eastern redtails and perhaps not accustomed to rattlesnakes."[2] Occasionally, even non-raptorial birds may run afoul of unusual prey items — *Blue Jay* readers may recall the curious case of a Ruffed Grouse that choked to death on a mouse![8]

The Eastern Screech-Owl is itself no slouch, taking, in addition to shrews and other small mammals, a wide variety of birds including one incredible, though well-documented, example of a Ruffed Grouse.[3] A recent study of a small sample of prey remains found in fall at Screech-owl roost sites (nest boxes) just south of Winnipeg found no shrews; 77% of the biomass represented by the prey remains was accounted for by birds.[6] Screech-owls are fairly common in Winnipeg, nearly a dozen having been turned in to the Manitoba Wildlife Rehabilitation Organization in winter 1992-93, and about five so far this winter. The extent to which they prey upon birds at or near feeders is not known, mostly because of their nocturnal habits, but there seem to be increasing reports of Screech-owls in this area. One can surmise that the Screech-owl found by Ken Bachynsky had been attracted to that site by the numerous birds drawn to his feeder including, as I was informed, a dozen House Sparrows, a few Blue Jays, Black-capped Chickadees, White-breasted Nuthatches and others (plus Cottontails!).

I am indebted to Ken Bachynsky for making this report possible. Gordon G. Graham provided useful assistance. My thanks to both.

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CLOSE ENCOUNTER WITH A BOBCAT

WAYNE HARRIS, 3460 Cowie Crescent, Swift Current, Saskatchewan.
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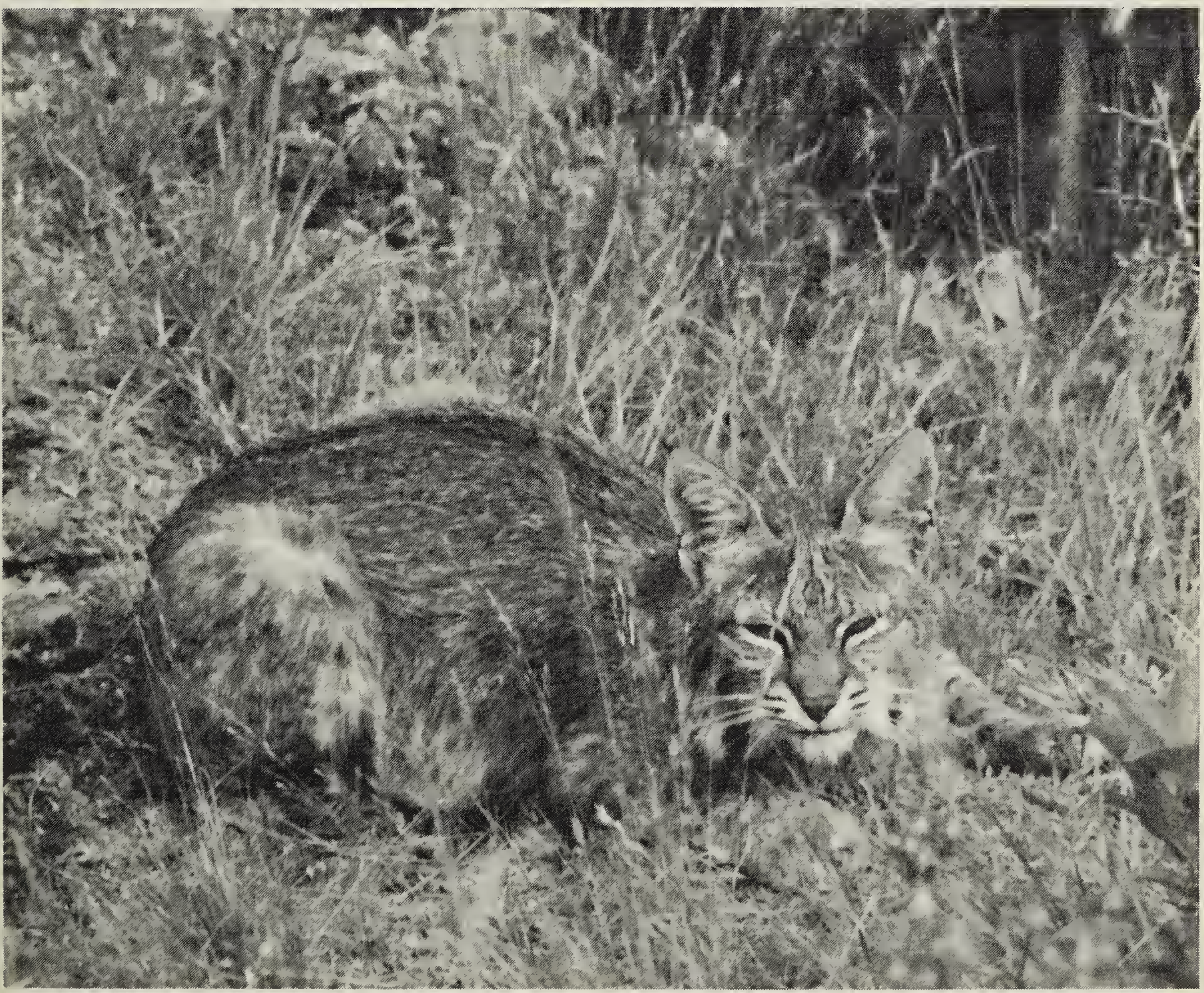
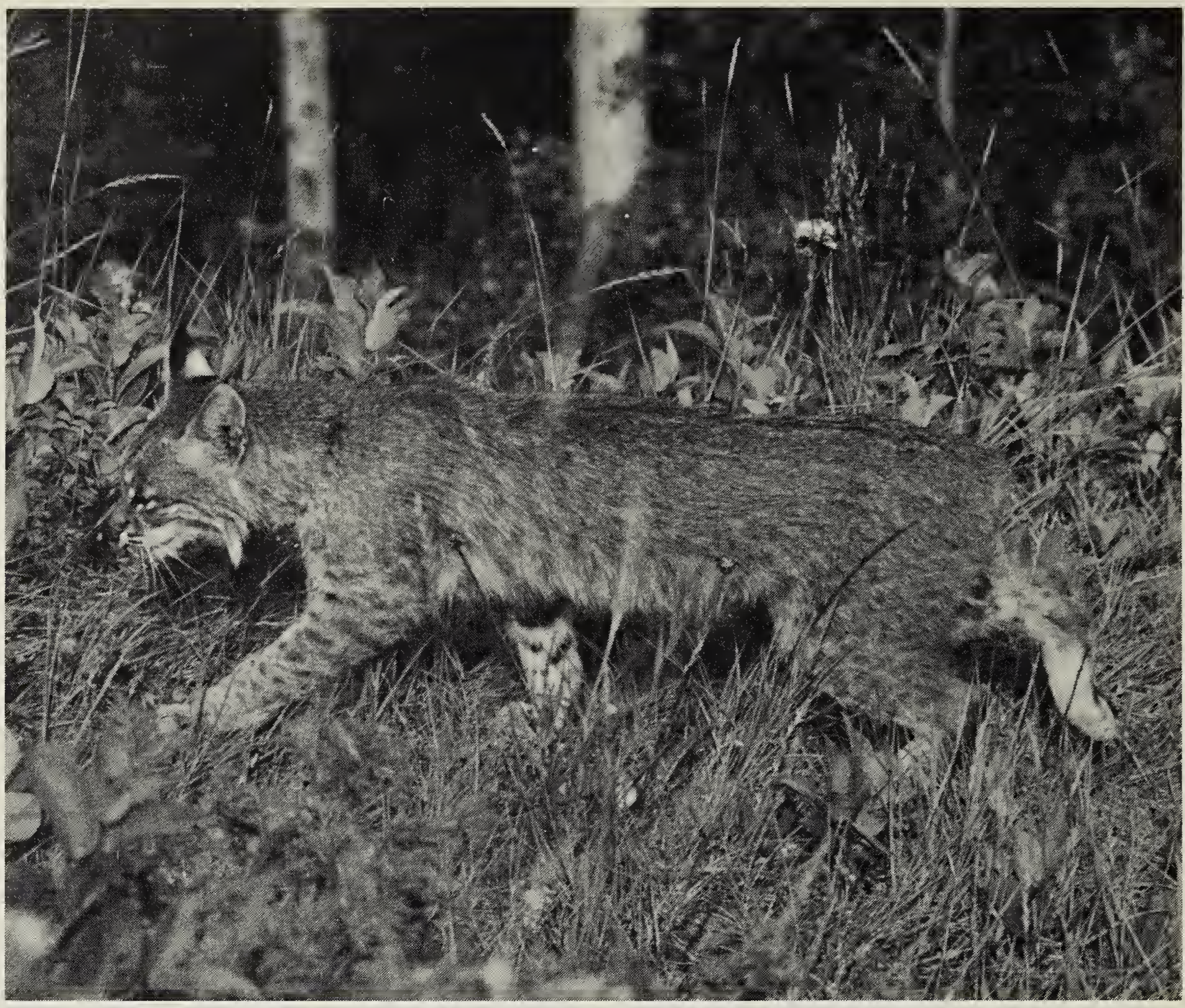
I would like to pass on to you a rather unique wildlife experience that I had on 11 July 1993 in the Cypress Hills Provincial Park.

I had spent a very leisurely and enjoyable three hours of a Sunday afternoon travelling the back road between the main park area and Fort Walsh. The wildflowers were exceptional and I couldn't go very far before I spotted another kind I hadn't photographed yet. The end of this journey brought me to the conglomerate cliffs where I stopped my car on the trail at the top of the cliff and stepped to the edge to look out over the lake and valley below.

To my surprise I heard a sound like a dirt bike seeming to come from the hills across the valley. No movement could be seen there and as I searched I quickly realized the sound came from much closer. I looked down and there on a grassy shelf about 60 ft. away sat a Bobcat looking at me. He was growling at me



Bobcat, Cypress Hills Provincial Park *Wayne Harris*



Bobcat *Wayne Harris*

and this was the sound that had attracted my attention. After taking a brief look I quietly slipped back to my car, put the telephoto lens on the camera and carefully edged back to take a couple of quick pictures before he left. He was still there and, in fact, hadn't moved at all.

He had not moved after the first few frames and I got bolder and moved to the edge of the cliff and to several spots on the edge. There was no cover there and I was in full view at all times. Other than the growl, he showed no fear or concern for my presence. In fact, he even closed his eyes several times and I would have to make a noise to get him to open them for a picture. He shifted position a few times but never made any motion to leave. After about 20 minutes he moved slowly towards me and approached within 30 ft. before moving under the edge of the cliff, but still remaining in sight.

My film was all used up and I had some deadlines to meet so it was time for me to return. I left with a memorable first-time encounter with a Bobcat and enough pictures to relive the moment any time I wanted.

NATURE LIBRARY

EXPLORING THE GRASSLANDS: UNDERSTANDING AN ECOSYSTEM

KAY WILLSON, illustrated by Elaine Muth. 1994. Saskatchewan Environmental Society, Saskatoon. 144 pp., coil bound, soft cover $10.00

In the last 100 years Saskatchewan has lost 80% of its short-grass prairie and 75% of its mixed-grass prairie thus earning the dubious distinction of being the most altered ecosystem in Canada. As education is one of the keys to conserving the remaining grasslands, the writing of this teaching guide for educators is welcome and long overdue.

This resource book is a complete teaching unit on ecosystems. It is designed to be used as part of the grade six curriculum, and it meets the core curriculum requirements on ecosystems. This unit can also be adapted as a grade 5 optional science unit. The usefulness of this book extends beyond the classroom. Many activities could be used by non-school groups interested in grassland ecology and conservation, keeping in mind they are developed for children around 12 years of age. Although the text is written using Saskatchewan examples, educators from other prairie provinces or states will find the material useful in their classrooms, too.

The book's main focus is to teach ecological concepts using the grassland ecosystem. There are ten lessons: The Grasslands Ecosystem, The Grassland Community, The Nutrient Cycle, A Day in the Grasslands, Creating a Grassland Mural, From Bison to Cattle, From Prairie to Wheat Fields, Protecting Native Grasslands, The Future of the Grasslands and Grasslands of the World. The lessons also cover issues about rangeland, cropland, threatened species and historical land use by humans.

Included in the lessons are background information for the teacher, an explanation of the activity, reproducible material for students, student questions, ideas for extended study, ideas for integrating other subject areas, student evaluation, lists of suitable resources and lists of supplies needed. Common Essential Learnings, Factors of Scientific Literacy and Objectives are included. There are listings of audio-visual and print resources and organizations providing these resources.

Lessons use a variety of strategies including class and small group discussions, role-playing, drama, journal writing, developing portfolios, using audio-visual materials, worksheets, study cards, research topics, writing prose and poetry, puppet shows, visualizations, demonstrations and hands-on activities. Student materials are written at an appropriate reading level and are reproducible for educational purposes.

Not only will this book provide lessons to teach ecological concepts, but it will also provide lessons and activities that show uniqueness of grasslands while stressing the need to conserve them. I hope that this book becomes a standard resource in classrooms throughout the prairies.

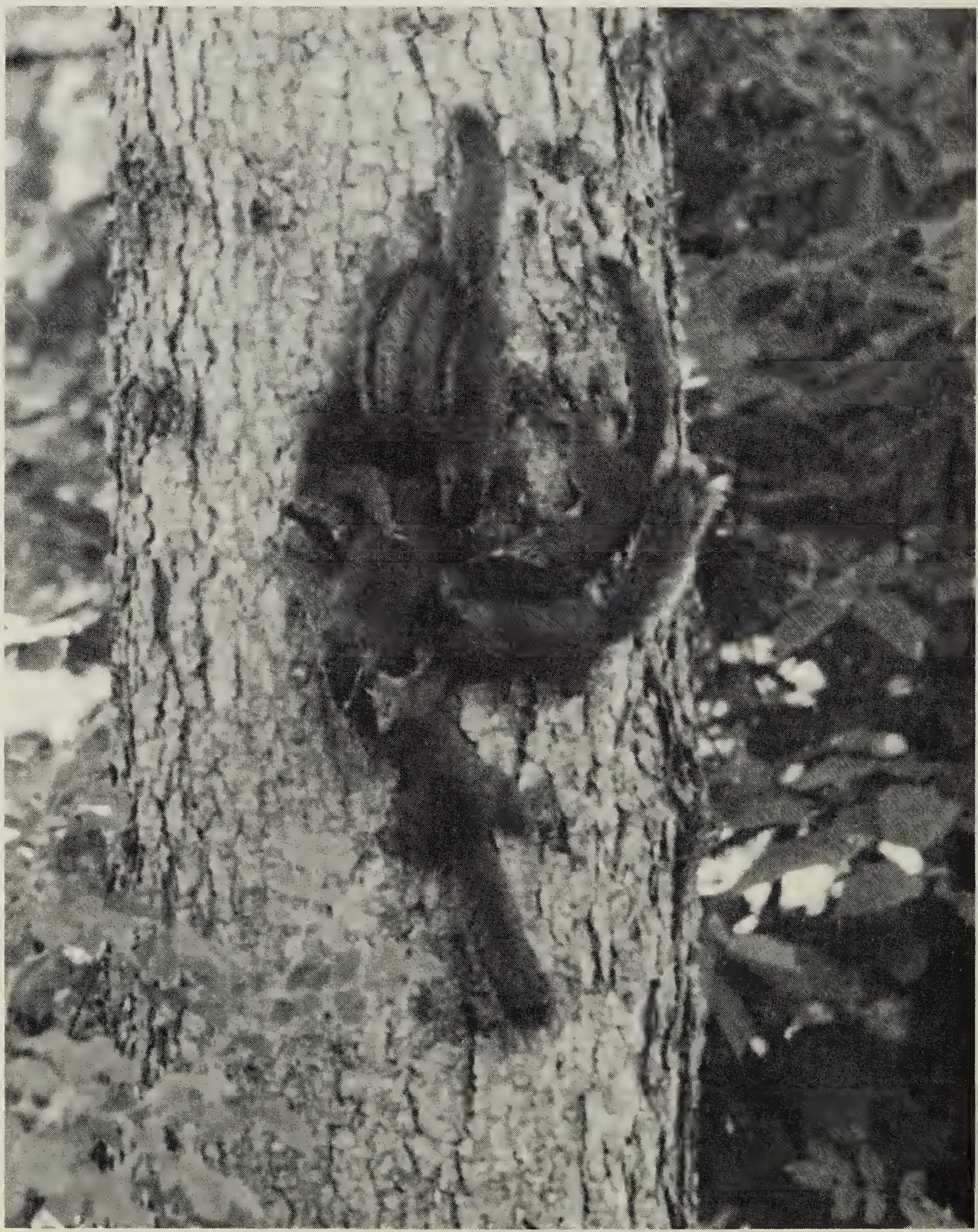
Reviewed by *John Pollock*, Box 353, Whitewood, Saskatchewan. S0G 5C0

LETTERS

CAUGHT IN THE ACT

I am pleased to submit a photograph of Red Squirrels for *Blue Jay*. My friend, Margret Falkiner, took the photo near her cottage at Madge Lake. A female Red Squirrel and five of her babies came rushing down a tree trunk making a lot of noise, when suddenly the mother stopped and her young settled down to lunch.

- *Isabel Ritchie*, Box 1182, Kamsack, Saskatchewan. S0A 1S0



Red Squirrel feeding five of her babies. *Margret Falkiner*

SONG SPARROW AT WINTER FEEDER

"Larger birds have more feathers than smaller ones, birds living in colder climates have more feathers in winter than in summer, and aquatic species have more feathers than comparably large terrestrial ones."[1] How about the birds which usually migrate to warmer climates? How do the birds which fail to travel south manage to keep warm enough to survive the severe weather that the prairies can dish out?

We had a reason for wondering, because on 2 December 1993, we noticed a scruffy looking little sparrow at the feeder. It had lost a major portion of the feathers on the left side of its tail. Also, the tip of the left wing was at an awkward upward tilt. It seemed that the bird may have recently escaped from some sort of disaster.

The Song Sparrow would frequent the various feeders; at times it would be in the company of the House Sparrows and the chickadees, but more often it would be alone. It would be the first one at the feeder early in the mornings, it would appear several times during the day, and often, all by itself, it would feed in the fading light of the winter evenings.

When the Song Sparrow first arrived in early December, the central breast spot was barely discernible,

Winter Song Sparrow in Spalding *Velma Spizawka* but as time passed the spot became more pronounced, and the injured wing seemed to straighten out. By the end of the month, the bird was looking quite wholesome.

For food, the Song Sparrow would peck away at the smaller seed such as the millet and milo, but seemed to prefer the black oil sunflower seeds. It would do the 'barnyard chicken scratch' with both feet at the same time, much like the juncos do. It would also flick its tail frequently.

Early in February, we realized that the little sparrow was not showing up at the feeders anymore. I had made my last notation about its presence on 4 February 1994. At that time all had seemed well; the bird had looked active and healthy. We wondered what mishap it may have fallen prey to — maybe one of the cats which sometimes wanders into the yard?

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- *Velma Spizawka*, Box 47, Spalding, Saskatchewan. S0K 4C0

DOWITCHER FLOCK RESCUES COMPANION FROM MERLIN

October 7, 1990, was a fine day. I had driven to Monica Slough, a large pond adjacent to Monica Farm near Richardson, Saskatchewan. I stopped on the gravelled road to scan the area with binoculars for any birds of interest. Immediately on my arrival I saw a Merlin pursuing a dowitcher in erratic flight across the sky. They disappeared in a northerly direction but shortly after the Merlin returned, apparently unsuccessful in its pursuit. In the shallow water there was a feeding flock of about 30 dowitchers. The Merlin flew to the nearby farmyard where it probably hunted for sparrows. Suddenly it reappeared at the slough. It was already chasing another dowitcher when I first noticed. They were flying in swift zigzag flight around the slough about five feet above the water when suddenly the whole tight flock of dowitchers took wing and enveloped both pursuer and pursued in a cloud of bodies, wings churning, brushing past the Merlin. For a moment I could see nothing except the flying mass of dowitchers. The Merlin, deprived of its target, broke off the hunt and flew off while the dowitcher flock left the pond.

I described the above incident to Frank Brazier, who felt that the rescue of a companion in peril by a flock of birds was outside anything in any literature that he could remember. The next year, after his return from Australia, he told me that he had recounted the story of the rescue to several professional ornithologists he had met there and none had ever read or heard of anything like it.

- *Fred W. Lahrman*, #7 3941 Retallack Street, Regina, Saskatchewan. S4S 3C1

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